U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Record of Decision for Programmatic Approval Addressing Vegetation Treatments Using Herbicides

July 2024

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Record of Decision for Programmatic Approval Addressing Vegetation Treatments Using Herbicides

July 2024

Prepared by Environmental Management and Planning Solutions, Inc

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ACRONYMS AND ABBREVIATIONS

	Full Phrase
BLM	United States Department of the Interior, Bureau of Land Management
EPA	United States Environmental Protection Agency
NEPA	National Environmental Policy Act
PEIS	programmatic environmental impact statement
ROD	record of decision
SOP	standard operating procedure
US	United States

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Chapter 1. Introduction

1.1 SUMMARY

This Record of Decision (ROD) approves the United States (US) Department of the Interior, Bureau of Land Management's (BLM) proposed use of the active ingredients aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin to treat vegetation on BLM-administered lands. These seven active ingredients are being added to the BLM's list of active ingredients available for use on public lands. The underlying environmental analysis for this ROD tiers to the environmental analysis supporting the BLM RODs completed in 2007 and in 2016 (BLM 2007a; BLM 2016a).

1.2 BACKGROUND

Noxious weeds and invasive plants pose an ever-increasing threat to the integrity of our public lands and the many ecological services they provide by outcompeting native vegetation and by acting as hazardous fuels that contribute to the frequency and severity of wildfires. Protection of healthy, intact ecosystems provides the associated native plants and animals a better opportunity to persist and adapt compared with ecosystems that have already been converted to invasive annual grasses. Accordingly, effective management of noxious and invasive plants is essential in maintaining ecological health on the approximately 245 million acres administered by the BLM. An essential tool in that effort is application of herbicides with effective active ingredients..

The *Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides* analyzes the BLM's use of seven additional active ingredients on all BLM-administered lands. Partnerships with other federal, state, and local agencies, as well as organizations and private landowners, have been instrumental in making progress to manage noxious and invasive plants. These partner agencies and groups use these additional active ingredients on lands not administered by the BLM. The impact of these partnerships across jurisdictional boundaries may be limited if the BLM cannot use the same active ingredients as its partners on BLM-administered lands..

Currently, the BLM uses 21 active ingredients, as authorized by RODs for two different programmatic environmental impact statements (PEISs) from 2007 and 2016. The *Record of Decision Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* in 2007 (2007 ROD; BLM 2007a) allowed the BLM to use 18 active ingredients for a full range of treatments on up to 932,000 acres of BLM-administered lands annually. The *Record of Decision Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (2016 ROD; BLM 2016a) allowed the BLM to use three new herbicide active ingredients for a full range of treatments on BLM-administered lands. The 2007 and 2016 RODs also outlined a protocol for identifying, evaluating, and using new herbicide active ingredients.

The BLM identified aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin as seven herbicide active ingredients that it would like to add to its list of approved active ingredients for use on public lands. These active ingredients were identified based on input from BLM field offices and a preliminary assessment of their effectiveness and suitability for the BLM's vegetation treatment needs. The seven proposed active ingredients are registered for use by the US Environmental

Protection Agency (EPA), are deemed effective in controlling vegetation, and have minimal effects on the environment and human health if used according to label instructions. The BLM determined that use of the proposed active ingredients on public lands under established vegetation management programs required further assessment under the National Environmental Policy Act (NEPA).

A *Final Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides* (BLM 2023) was released to the public on December 29, 2023 (Federal Register, Volume 88, Number 249, Pages 90199-90200). In accordance with NEPA, this PEIS identified impacts on the natural and human environment associated with the use of aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin to treat vegetation on BLM-administered lands. The current PEIS incorporated information from the 2007 and 2016 PEISs by reference, but also provided updated information where available and relevant. The BLM evaluated two program alternatives in the PEIS, including the Preferred Alternative and the No Action Alternative. The alternatives considered in the PEIS address known public concerns and issues, including those raised during the preparation of the 2007 and 2016 PEISs. Comments, documents, and information received concerning the current PEIS were considered in preparing the ROD presented here.

Chapter 2. Decision

The decision is to approve the BLM's Proposed Action to add aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin to its list of approved active ingredients for use on public lands. The BLM selected the Preferred Alternative (Alternative B), which allows the seven active ingredients to be incorporated into vegetation management activities on all BLM-administered lands in the United States. Like all herbicide active ingredients approved for use on public lands, these active ingredients will only be applied for uses, and at application rates, specified on the EPA-registered herbicide label.

The BLM will comply with changes in herbicide label directions and will comply with all state registration requirements. If state registration requirements do not allow the application of a particular herbicide active ingredient approved for use in the PEIS, the BLM will not authorize use of that herbicide active ingredient within the state where its use is prohibited.

The decision to approve the use of the active ingredients is supported by herbicide treatment standard operating procedures (SOPs) and prevention measures to ensure that the natural and human environment are protected during implementation of herbicide treatments.

2.1 Herbicide Active Ingredients Approved for Use

Table 2-1 provides a summary of the seven active ingredients and their modes of action, target species, and areas where registered use is appropriate.

Table 2-1
Herbicide Active Ingredient Characteristics

Active Ingredient	Representative Product Trade Name	Manufacturer/ Distributer	Concentration of Formulation	EPA Registration Number	Herbicide Resistance – WSSA Code	Mode and Mechanism of Action	Pre- or Post-emergence Application
Aminocyclopyrachlor	Method 240 SL	Bayer Environmental Science	2.0 pounds a.e./gallon*	432-1565	Group 4	Plant growth regulator – auxin receptor interference	Pre- and post-emergence control of broadleaves and woody species
Clethodim	Envoy Plus	Valent U.S.A. Corporation LLC	0.97 pounds a.i./gallon**	59639-132	Group 1	Lipid biosynthesis inhibition –acetyl-CoA carboxylase (ACCase) inhibitor	Post-emergence control of annual and perennial grasses
Fluazifop-P-butyl	Fusilade DX	Syngenta Crop Protection, LLC	2.0 pounds a.i./gallon	100-1070	Group 1	Lipid biosynthesis inhibition – ACCase inhibitor	Post-emergence control of annual and perennial grasses
Flumioxazin	Payload	Valent U.S.A. Corporation LLC	51% active ingredient	59639-120	Group 14	Cell membrane disruptor – protoporphyrinogen oxidase (PPO) inhibitor	Pre- and post-emergence control
Imazamox	Clearcast	BASF Corporation	1.0 pound a.e./gallon	241-437	Group 2	Amino acid synthesis inhibitor –acetolactate synthase (ALS) inhibitor	Post-emergence control

Active Ingredient	Representative Product Trade Name	Manufacturer/ Distributer	Concentration of Formulation	EPA Registration Number	Herbicide Resistance – WSSA Code	Mode and Mechanism of Action	Pre- or Post-emergence Application
Indaziflam	Rejuvra	Bayer Environmental Science	1.67 pounds a.i./gallon	432-1609	Group 29	Cellulose biosynthesis inhibitor – inhibition of cellulose biosynthesis	Pre-emergence control
Oryzalin	Surflan AS Specialty	United Phosphorus Inc.	4.0 pounds a.i./gallon	70506-44	Group 3	Seedling root growth inhibitor – microtubule inhibitor	Pre-emergence control

* a.e./gallon = acid equivalent per gallon

** a.i./gallon = active ingredient per gallon

2.1.1 Aminocyclopyrachlor

Aminocyclopyrachlor is used for pre- and post-emergence control of broadleaf weeds and woody species. It is registered for both ground and aerial application. Aminocyclopyrachlor is a systemic active ingredient that functions as a plant growth regulator that works by mimicking plant auxins[1] and interfering with plant growth. Leafy spurge (*Euphorbia esula*) is a rangeland weed that may be targeted with this active ingredient. As a result, use of picloram, which is a restricted-use pesticide, would be reduced.

2.1.2 Clethodim

Clethodim is used for selective post-emergence control of annual and perennial grasses. It is registered for both ground and aerial application. Clethodim works systemically as a fatty acid biosynthesis inhibitor ("post-grass herbicide"), which inhibits the enzyme ACCase. ACCase is responsible in the catalysis[2] of fatty acid synthesis, which contributes to energy storage, cell structure, and other vital physiological functions. Its use by the BLM is likely to be limited.

2.1.3 Fluazifop-P-butyl

Fluazifop-P-butyl works in a similar manner as clethodim. It also would be used for annual and perennial grasses, particularly those that have developed herbicide resistance. Applications would involve either spot or broadcast (ground or aerial) applications.

2.1.4 Fluminoxazin

Flumioxazin is used for pre- and post-emergence control of both terrestrial and aquatic species. Preemergence applications need moisture to activate the active ingredient. It is registered for both ground and aerial application. Flumioxazin is a systemic active ingredient that functions as a cell membrane disruptor; the active ingredient works by inhibiting PPO, which is an enzyme in the chloroplast that is ultimately responsible for producing other molecules needed for important processes, such as photosynthesis and electron chain transfers. This active ingredient has the potential to provide a replacement for diuron as a bare-ground active ingredient and could assist in managing herbicide-resistant species.

2.1.5 Imazamox

Imazamox is used in a broadcast post-emergence application for both terrestrial and aquatic species. It is registered for both ground and aerial application. Imazamox is a systemic active ingredient that works as an amino acid synthesis inhibitor, which prevents the plant's ability to produce ALS, which is an enzyme that catalyzes the first step in the synthesis of branched-chain amino acids. Approval of this active ingredient would improve the BLM's invasive species management program by making available an aquatically approved active ingredient in addition to fluridone, diquat, and specific formulations of 2,4-D, imazapyr, glyphosate, and triclopyr.

2.1.6 Indaziflam

Indaziflam is a broadcast preemergence active ingredient that is registered for both ground and aerial applications to manage invasive annual grasses such as cheat grass and broadleaf species. It is a cellulose biosynthesis inhibitor, which weakens the structure of the cell wall. Because of its long residual activity

[1] Auxin is a growth hormone produced by plants.

[2] Catalysis is an increase in the rate of a chemical reaction.

and selectivity, this active ingredient is a potential tool for maintaining and promoting intact native plant communities threatened by invasive annual grasses and some broadleaf noxious weeds as a spray and release treatment.

2.1.7 Oryzalin

Oryzalin is a preemergence active ingredient that, like flumioxazin, requires moisture to activate. It is registered for ground application. Oryzalin functions as a seedling root growth inhibitor; this mode of action targets cell division at the microtubule, reducing new plant growth and affecting the plant's ability to grow normally in the soil. This may be used in place of diuron and bromacil for the management of invasive annual grasses and broadleaf species.

2.2 HERBICIDE TREATMENT STANDARD OPERATING PROCEDURES

Under either alternative, the BLM would follow prevention measures and SOPs designed to minimize risks to human health and the environment from herbicide treatment actions. SOPs are management controls and performance standards that are required of all herbicide treatments. They are intended to protect and enhance natural resources that could be affected by herbicide treatments. The BLM reviewed and refined the prevention measures (BLM 2007b, pp. 2-24 to 2-25) and SOPs (BLM 2007b, pp. 2-30 to 2-35) from the 2007 PEIS for this effort to reduce redundancy and improve clarity. The list of prevention measures and SOPs is presented in **Appendix A**.

2.3 MONITORING, COORDINATION, AND EDUCATION

Monitoring of vegetation treatments is used to identify whether treatments are implemented appropriately and to determine their effectiveness. Under either alternative, the BLM would continue to use the BLM Assessment, Inventory, and Monitoring Strategy as a monitoring framework; this is described further in the 2016 PEIS (BLM 2016b, p. 2-9). The 2007 PEIS (BLM 2007b, pp. 2-35 to 2-39) provides an additional discussion of monitoring of vegetation treatments, including BLM guidance, procedures for implementation, monitoring methods, and dissemination of results.

The 2007 PEIS (BLM 2007b, p. 2-39) summarizes the ways in which the public can participate in this process, as well as other applicable coordination efforts between the BLM and the public.

Chapter 3. Alternatives Considered

Two program alternatives were evaluated in the PEIS. Alternatives were developed that: 1) allow the BLM to continue its current use of 21 herbicide active ingredients on BLM-administered land in the United States, or 2) allow for the use of aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin, in addition to the 21 herbicide active ingredients currently used by the BLM. The BLM also considered alternatives that were considered during the development on the 2007 and 2016 Programmatic EISs. These were incorporated by reference in this Final EIS (BLM, 2023).

3.1 Alternative A — Continue Present Herbicide Use (No Action Alternative)

This alternative described an integrated vegetation management program for resource management and habitat enhancement using the 21 active ingredients approved in the decision records for the 2007 and 2016 PEISs to manage competing and unwanted vegetation. This alternative corresponds to Alternative B of the 2016 PEIS, which estimated that approximately 932,000 acres in the western US would be treated annually using active ingredients.

On lands within the BLM's eastern states jurisdiction, an environmental assessment was completed to adopt the 21 active ingredients approved for the western US.

3.2 Alternative B — Allow For Use of Seven Proposed Active Ingredients on BLM-Administered Lands (Preferred Alternative)

Under the preferred alternative, the BLM would add the proposed active ingredients to its suite of tools it may consider for vegetation management. The proposed active ingredients would be integrated into the BLM's vegetation treatment activities. They could be used throughout BLM-administered lands, subject to applicable restrictions on their usage, such as those identified on the individual pesticide label and restrictions by each state's pesticide regulatory agency. Appropriate site-specific NEPA analyses would be conducted prior to on-the-ground use of the active ingredients.

3.3 Environmentally Preferred Alternative

Alternative B, The Preferred Alternative, is the environmentally preferable alternative in this ROD. The BLM determined that risks associated with the use of proposed herbicide active ingredients will be minor, and the benefits of herbicide use under Alternative B will be greater than under the other alternative. Additionally, the proposed active ingredients are of lower toxicity than some of the active ingredients currently approved for use by the BLM. In some instances, one or more of the new herbicides may be used instead of more toxic active ingredients. The Preferred Alternative allows the BLM to use all seven of the new active ingredients under the widest range of treatment scenarios. The ability to use these will afford the BLM more options to consider when designing vegetation treatment projects, responding to the negative effects of invasive plant infestations, and increasing efficacy of treatments and associated benefits to resources on public lands.

Chapter 4. Management Considerations

This section provides the rationale for the BLM's decision to approve the use of aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin in its vegetation management programs.

4.1 General Herbicide Treatment Considerations

The 2007 and 2016 RODs include a lengthy discussion of the considerations that went into the decision to approve the use of 21 herbicide active ingredients to manage vegetation on public lands. Many of these considerations are pertinent to vegetation or herbicide treatments in general. As the seven approved active ingredients are being incorporated into existing vegetation management programs, these more general considerations are pertinent to the current decision. They are summarized below:

- The BLM is guided by federal laws, regulations, and policies that require actions to reduce wildfire risk, to manage noxious weeds and other invasive vegetation, and to manage, maintain, and improve the condition of rangelands.

- The decision to allow use of active ingredients at the programmatic level still requires NEPA analysis and agency consultation at the regional and/or local level, which includes an implementation-level analysis of potential effects to environmental and socioeconomic resources.

- The BLM coordinates with national, tribal, state, county, and local agencies, as well as non-governmental organizations and cooperative weed management areas that have various responsibilities and objectives pertaining to invasive species control and prevention, natural resource improvement, and wildland fire management and prevention.

- Herbicides are one component of a larger vegetation management program that follows an integrated pest management approach to managing and treating vegetation. Vegetation treatments include the use of fire, mechanical and manual methods, biological control, and herbicides. When developing vegetation treatment projects, all of these management options are considered, as appropriate, allowing the BLM to select the method or combination of methods that optimizes control of vegetation with respect to environmental concerns, effectiveness, and cost of control. All of these factors will be considered, regardless of what active ingredients are allowed at any given time.

- The BLM considers a variety of factors (such as statutory mandates, goals, and treatment priorities) when selecting sites for treatments.

- The BLM considers a variety of site-specific factors when determining which treatment method(s) to utilize in a given location, such as site conditions, land uses, characteristics of the target plant species, and proximity to communities.

4.2 Selection of the Seven Approved Active Ingredients

The ROD for the 2007 PEIS included a protocol for identifying, evaluating, and approving new herbicide active ingredients for use in BLM vegetation management programs. This protocol was followed in the

selection of aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin for future use in BLM vegetation management programs. These active ingredients were selected based on the following:

1) Input from BLM field offices on the types of vegetation needing control.

2) Studies indicating that these active ingredients would be more effective in managing noxious weeds and other unwanted vegetation than active ingredients currently used by the BLM.

3) EPA approval for use on rangelands, forestlands, and/or aquatic environments.

4) Input from herbicide manufacturers regarding active ingredients not currently approved for use on public lands that may be appropriate to manage vegetation.

5) The effectiveness of the active ingredients on a variety of target species on BLM-administered lands.

6) The level of risk of the herbicidal formulations to human health and the environment.

7) The availability of existing human health and ecological risk assessments for the proposed active ingredients, and the need to reduce herbicide resistance risk resulting from exclusive use of particular active ingredients.

The BLM would use these active ingredients to help reduce the spread of noxious weeds and other invasive plants to reduce the buildup of hazardous fuels, reduce the loss of wildlife habitat, help stabilize and rehabilitate sites impacted by fire, and restore native and desirable plant communities. BLM would require post-treatment monitoring and evaluation to record and identify treatment effectiveness and non-target effects.

4.3 Issues Considered in the Decision Process and Summary of Environmental Consequences of Decision

The BLM conducted internal scoping by gathering an interdisciplinary team of specialists to review the 2007 and 2016 PEISs. This team then identified new issues for analysis associated with this effort and issues that may need updating from the previous PEISs. Then, after public scoping, the BLM reviewed all public comments and identified substantive ones—those that provide relevant and new information with sufficient detail. The substantive comments informed the development of issues for the analysis. Non-substantive comments were not discussed because the commenters did not provide information pertinent to the project or because they contained opinions or vague questions. As a result of the internal and public scoping efforts, the following issues were identified for analysis in this PEIS:

1. How would the application and use of proposed active ingredients affect nontarget plant species, including special status plants?
2. How would the application and use of proposed active ingredients affect the potential for herbicide resistance?
3. How would the application and use of proposed active ingredients affect soil microbiology?
4. How would the application and use of proposed active ingredients affect water quality?

5. How would the application and use of proposed active ingredients affect pollinator habitat?
6. How would the application and use of proposed active ingredients affect fire risk across the landscape?

4.3.1 Beneficial Effects to Resources Evaluated in PEIS

Short-term losses in resource functions that might occur from herbicide treatments would generally be compensated for by long-term gains in ecosystem health.

Treatments with aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin could improve the effectiveness of certain treatments and reduce the likelihood of herbicide resistance with the availability of the additional active ingredients. Improved treatment effectiveness could allow the BLM to better meet its goals of managing undesirable vegetation, reducing fire risk, and restoring natural fire regimes. This would indirectly benefit vegetation communities, non-timber special forest product availability, and rare plants and their habitat, including critical habitat.

Successful herbicide treatments, which would often be combined with other types of treatments, would benefit soils, water quality, and vegetation by helping to move fire regimes closer to historical levels, slowing the spread of weeds, and allowing for a wider range of options to reduce the potential for impacts on natural resources. Treatments that remove or facilitate removal of hazardous fuels from public lands should also reduce the number of fire starts.

4.4 Development of the Decision

4.4.1 Alternative A — Continue Present Herbicide Use (No Action Alternative)

The BLM did not select this alternative for the decision and did not consider this alternative to be the environmentally preferred alternative because it does not afford the BLM any additional herbicide options for designing on-the-ground treatments. Additionally, this alternative does not address the BLM's identified need for new active ingredients that benefit weed control capability by increasing herbicide treatment options to better target problematic weeds, reduce impacts on nontarget species, and help prevent weed-developed herbicide resistance that can result from repeated use of the same active ingredients.

4.4.2 Alternative B — Allow for Use of Seven Proposed Active Ingredients on BLM-Administered Lands (Preferred Alternative)

This alternative best meets the purpose and need for the proposed action. The BLM's purpose is to improve the effectiveness of its invasive plant treatment efforts by allowing the use of EPA-registered active ingredients not currently authorized for use on BLM-administered lands. This action would increase the BLM's treatment options for the public lands it administers. The overall goals are to control noxious weeds and invasive plants to restore degraded habitat and reduce the risk of further ecological damage across BLM-administered lands.

While the current suite of active ingredients used by the BLM are effective at treating many invasive plant species, the BLM has identified some areas where the efficacy of treatments could be improved with the new active ingredients or where use of active ingredients with a higher risk to humans, fish, wildlife, or other natural or cultural resources could be reduced. Indaziflam, for instance, can be used to manage sites that are becoming invaded by invasive annual grasses, such as cheatgrass, but treated areas can still retain a desired native component.

For these reasons, the BLM selected Alternative B for the decision. The BLM determined that the risks associated with the use of active ingredients under this alternative will be similar to, or slightly lower than, those under Alternative A, but the benefits have the potential to be greater than under Alternative A. The BLM also identified this alternative as the environmentally preferred alternative.

4.5 CONSULTATION AND COORDINATION

Specific coordination and consultation will also occur as necessary as local BLM offices undertake implementation-level analyses and authorizations.

4.5.1 Endangered Species Act Section Consultation

The BLM completed ESA Section 7 consultation with the US Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) prior to completion of this Record of Decision. On December 18, 2023, the BLM submitted a Biological Assessment determining that this action is Not Likely to Adversely Affect threatened or endangered species. An Essential Fish Habitat Assessment, in accordance with the Magnuson-Stevens Fishery Conservation and Management Act, was included. The US Fish and Wildlife Service concurred with the BLM's finding in a letter dated April 10, 2024. The BLM, when completing implementation level authorizations, is required to consult with the US Fish and Wildlife Service when conducting actions that may affect threatened or endangered species under that agency's jurisdiction.

On June 4, 2024, NMFS completed a Biological Opinion finding that vegetation treatments using herbicides are not likely to jeopardize the continued existence of listed or proposed species under NMFS's jurisdiction. This Programmatic Biological Opinion covers all noxious and invasive plant management activities outside of pesticide use limitation areas as described by NMFS and the EPA. Section 16 of the Biological Opinion includes the Magnuson Stevens Fishery Conservation and Management Act Essential Fish Habitat Response, which incorporates necessary conservation measures when working in Essential Fish Habitat. These measures are carried forward from the Prevention Measures and Standard Operating Procedures presented in Appendix A.

A copy of the US Fish and Wildlife Service Letter of Concurrence and the Executive Summary of the NMFS Biological Opinion are provided in Appendix B. A full copy of the Biological Opinion is available online with this record.

Chapter 5. Public Involvement

The public, state, local, tribal and federal government agencies, and non-governmental organizations provided valuable input into the decision processes used to develop the PEIS and ROD.

5.1 Development of the Draft Programmatic EIS

The BLM published a Federal Register Notice of Intent (Notice) on April 4, 2022 (Federal Register, Volume 87, Number 64, Pages 19525-19526). The Notice asked the public to provide comments and help the BLM identify issues relevant to the proposal to use aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, oryzalin, and trifluralin on public lands. The BLM later dropped the active ingredient trifluralin from consideration for analysis. The Notice indicated that the public comment period for the scoping process was 30 days. The BLM removed trifluralin from consideration as the EPA has not registered it for uses necessary to BLM-managed public lands.

5.1.1 Public Review and Comment of the Draft Programmatic EIS

The Notice of Availability of the Draft Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides was published in the Federal Register on April 21, 2023, which initiated a 45-day public review and comment period. The Draft PEIS and supporting documentation were posted to the BLM website (https://eplanning.blm.gov/eplanning-ui/project/2017138/510) where the public was able to download copies of these documents. Copies of the documents were also available upon request.

5.2 Development of the Final Programmatic EIS and Preferred Alternative

Following closure of the public comment period, the BLM reviewed the comments received and finalized its selection of Alternative B as the Preferred Alternative. No alternative proposals were received from the public.

A total of 46 comment letters or emails on the Draft PEIS were received. A total of 175 substantive comments were identified and responded to during preparation of the Final PEIS. The few changes made to the PEIS primarily consisted of clarifying BLM's efforts to coordinate with Tribes and incorporate additional literature into the impacts analysis. However, no changes to the alternatives or the effects analysis were warranted.

5.2.1 Public Review of the Final Programmatic EIS

The Notice of Availability of the Final Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides was published in the Federal Register on December 29, 2023. The Final PEIS and associated documents were posted to the BLM website (https://eplanning.blm.gov/eplanning-ui/project/2017138/510) where the public was able to download copies of these documents. Copies of the documents were also available upon request. The BLM received one written comment letter regarding the Final Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides. A review of the comment letter identified no substantive or significant new circumstances or information not previously addressed in the Draft or Final PEIS or Biological Assessment. No new information was identified that indicated that the BLM should modify the final Preferred Alternative or alter the decision to select the Preferred Alternative in this ROD.

5.3 SIGNATURE PAGE

Program Information

U.S. Department of the Interior
Bureau of Land Management
Directorate for Resources and Planning
Division of Forestry, Range, and Vegetation Resources
Weeds and Invasive Species Management Program
https://www.blm.gov/programs/weeds-and-invasives

I approve selection of the Preferred Alternative described in the attached Record of Decision and analyzed in the Final *Programmatic Environmental Impact Statement Addressing Vegetation Treatments Using Herbicides* (Final PEIS) (U.S. Department of the Interior, Bureau of Land Management, December 2023). This decision approves the inclusion of herbicide active ingredients aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin to vegetation management activities on BLM-administered lands.

Signature and Date

SHARIF BRANHAM

Digitally signed by SHARIF BRANHAM
Date: 2024.07.01 13:36:28 -04'00'

Sharif Branham
Assistant Director, Resources and Planning
Bureau of Land Management
U.S. Department of the Interior

Chapter 6. References

BLM (US Department of the Interior, Bureau of Land Management). 2007a. Record of Decision for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States. Washington Office, Washington DC.

BLM (US Department of the Interior, Bureau of Land Management). 2007b. Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States. Washington Office, Washington DC.

BLM (US Department of the Interior, Bureau of Land Management). 2016a. Record of Decision for Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States. Washington Office, Washington DC.

BLM (US Department of the Interior, Bureau of Land Management). 2016b. Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States. Washington Office, Washington DC.

BLM (US Department of the Interior, Bureau of Land Management). 2023. Final Programmatic Environmental Impact Statement for Approval of Herbicide Active Ingredients for Use on Public Lands. Bureau of Land Management Headquarters, Washington DC.

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Appendix A. Prevention Measures and Standard Operating Procedures

The following appendix describes measures to prevent the introduction and spread of noxious and invasive weeds (**Table A-1**) and standard operating procedures (SOPs) for applying herbicides (**Table A-2**). The 2007 PEIS describes further the importance, priorities, and processes associated with prevention, early detection, and rapid response (BLM 2007b, p. 2-23 to 2-25).

As described in the 2007 PEIS (BLM 2007b, p. 2-22 to 2-23), SOPs would be followed by the BLM under all alternatives to ensure that risks to human health and the environment from herbicide treatment actions would be kept to a minimum. Standard operating procedures are the management controls and performance standards required for vegetation management treatments. These practices are intended to protect and enhance natural resources that could be affected by future vegetation treatments. For instance, following specifications on an herbicide's label may require spray at a certain droplet size that is intended to prevent offsite spread. Drift prevention may also be accomplished by the use of adjuvants or tank mixes.

Table A-1
Prevention Measures

• BLM Activity	• Prevention Measure
Project Planning	• Incorporate prevention measures into project layout and design, alternative evaluation, and project decisions to prevent the introduction or spread of weeds. • Determine prevention and maintenance needs, including the use of herbicides, at the onset of project planning. • Use modeling tools (e.g., EPA's Pesticide Use Limitation Areas), as appropriate and available, during project planning to avoid impacts on resources. • 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 high-risk sites 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. • Inform the public about weed free hay, straw, and gravel requirements in applicable states. • Coordinate project activities with nearby herbicide applications to maximize the cost-effectiveness of weed treatments. • Consider adjustments in the existing grazing permit, needed to maintain desirable vegetation on the treatment site. • Identify and implement any temporary domestic livestock grazing and/or supplemental feeding restrictions needed to enhance desirable vegetation recovery following treatment. • Provide educational materials at trailheads and other wilderness entry points to educate the public on the need to prevent the spread of weeds. • Encourage backcountry pack and saddle stock users to feed their livestock only certified weed-free feed for several days before entering a wilderness area.

• BLM Activity	• Prevention Measure

Project Development	• Minimize soil disturbance to the extent practical, consistent with project objectives.
	• To prevent weed germination and establishment, retain native vegetation in and around projectactivity 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 detectedand controlled.
	• Prevent weed establishment by not driving through weed-infested areas.
	• Inspect and document weed establishment at access roads, cleaning sites, and all disturbed areas; control infestations to prevent spread within the project area.
	• For operations in waterbodies, when moving equipment or personnel through waterbodies on the way to the project site or before transporting watercraft and aquatic gear (i.e., hip boots, waders, and bait containers) to the authorized use area, permittee shall:
	  • Remove any aquatic plants, animals, and mud attached to watercraft and equipment,
	  • Drain water from boat, motor, bilge, live wells, and bait containers, and
	  • Spray all watercraft and equipment with high pressure water or dry for at least 5 days

Project Development *(cont.)*	• 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. • Use certified weed-free feed for horses and pack animals. • Develop monitoring and evaluation plans to record and identify treatment effectiveness and non-target effects

• BLM Activity	• Prevention Measure
Revegetation	• 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, re-establish vegetation on bare ground caused by project disturbance as soon as possible using either natural recovery or artificial techniques. Revegetate disturbed sites with native species if there is no reasonable expectation of natural regeneration. • Maintain stockpiled, uninfested material in a weed-free condition. • 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. • Where practical, stockpile weed-seed-free topsoil and replace it on disturbed areas (e.g., roadembankments or landings). • 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 ROW, and other areas of disturbed soils.

Table A-2
Standard Operating Procedures for Applying Herbicides

• Resource Element	• Standard Operating Procedure
Guidance Documents	• BLM Handbook H-9011-1 (*Chemical Pest Control*); and manuals 1112 (*Safety*), 9011 (*Chemical* • *Pest Control*), 9012 (*Expenditure of Rangeland Insect Pest Control Funds*), 9015 (*Integrated Weed Management)*, 9220 (*Integrated Pest Management*), and 1740-2 (*Integrated Vegetation Management*)
General	• **General standard operating procedures would be used for all projects; standard operating procedures for other resource elements would be used as appropriate.**
	• **Follow product label for use and storage.** • **Storage, Contingency, and Record Keeping** • Prepare spill contingency plan in advance of treatment. • Keep copy of Safety Data Sheets (SDSs) at work sites. SDSs 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. • Conduct mixing and loading operations in an area where an accidental spill would not contaminate an aquatic body. • **Herbicide Treatment Planning** • Use only BLM-approved herbicides. Some state or local restrictions may apply. • Use only licensed herbicide applicators. • Pesticide use proposals are required for all herbicide treatments on BLM public lands. • Review, understand, and conform to all aspects of the herbicide label for each specific herbicide used. • Consult the herbicide label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide. • Select herbicides and adjuvants that are least damaging to environment while providing the desired results. • Where habitat is present, conduct pre-treatment surveys for sensitive habitat and special status species within or adjacent to proposed treatment areas. • Consider site characteristics, environmental conditions, application equipment, and herbicide characteristics in order to minimize damage to resources, such as non-target vegetation or water resources. • Minimize the size of application areas, when feasible. • Consider surrounding land use (including visual resources and socioeconomic conditions) before assigning aerial spraying as a treatment method and avoid aerial spraying near agricultural or densely populated areas. • Notify adjacent landowners prior to treatment. • Post treated areas and specify reentry or rest times, if appropriate. • Observe restricted entry intervals specified by the herbicide label. • Apply the least amount of herbicide needed to achieve the desired result. • Avoid accidental direct spray and spill conditions to minimize risks to resources. • Avoid aerial spraying during periods of adverse weather conditions (snow or rain imminent, fog, or air turbulence). • Consider the effects of wind, humidity, temperature inversions, and heavy rainfall on herbicide effectiveness and risks.

• Resource Element	• Standard Operating Procedure
General *(cont.)*	• **Minimizing Herbicide Drift** • Only apply herbicides when winds are <10 mph (<6 mph for aerial applications) or if no serious rainfall event is imminent. Some state/local or label restrictions may apply. • Use drift control agents, drift reduction agents, and low volatile formulations to reduce drift hazards. • Use appropriate application equipment/method near water bodies if the potential for off-site drift exists. • Establish herbicide-free buffer zones to ensure that drift will not affect crops or nearby residents/landowners. • 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. • Consider surrounding land uses before aerial spraying. • 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. • Turn off applied treatments at the completion of spray runs and during turns to start another spray run.
Air Quality See Manual 7000 (*Soil, Water, and Air Management*)	• 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).
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. • 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%, or as specified in the label, where there is the possibility of runoff carrying the granules into non-target areas.
Water Resources See Manual 7000 (*Soil, Water, and Air Management*)	• 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.. • 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. • Apply measures to prevent sedimentation into surface water from treatment areas.

• Resource Element	• Standard Operating Procedure
Wetlands and Riparian Areas	• 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.
Vegetation See Handbook H-4410-1 (*National Range Handbook*), and manuals 5000 (*Forest Management*) and 9015 (*Integrated Weed Management*)	• Identify if the vegetation has acquired resistance to any active ingredient and select herbicides to reduce potential for resistance.

Pollinators	• 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.
	• 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.
	• Use the least hazardous formulation to pollinators available
	  • Dust, wettable powders, and microencapsulated formulations are most hazardous to bees because they are similar in size to pollen and can stick to hairs on a bee's body.
	  • Granulated formulations are generally the least hazardous to bees.

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. • 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. • 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. • Reference the EPA Aquatic Life Benchmarksto ensure herbicide concentrations for planned vegetation treatments are below thresholds that would cause acute or chronic harm to aquatic species.
Wildlife See manuals 6500 (*Wildlife and Fisheries Management*) and 6780 (*Habitat Management Plans*)	• Use herbicides of low toxicity to wildlife, where feasible. • Use spot applications or low-boom broadcast operations where possible to limit the probabilityof 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.
Threatened, Endangered, andSensitive Species See Manual 6840 (*Special Status Species*)	• 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.

• Resource Element	• Standard Operating Procedure
Livestock See Handbook H-4120-1 (*Grazing Management*)	• Whenever possible and whenever needed, schedule treatments when livestock are not presentin the treatment area. Design treatments to take advantage of normal livestock grazing rest periods, when possible. • As directed by the herbicide label, remove livestock from treatment sites prior to herbicide application, where applicable. • Use herbicides of low toxicity to livestock, where feasible. • Notify permittees of the project to improve coordination and avoid potential conflicts andsafety 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.
Wild Horses and Burros	• Apply SOPs as listed above for wildlife.
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*), 8270 (*Paleontological Resource Management*), and 1780 (*Tribal Relations*) 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 ofLand 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 or36 CFR Part 800, including necessary consultations with State Historic Preservation Officers and interested tribes. • 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. • 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. • Follow guidance under Human Health and Safety in areas that may be visited by Native peoples after treatments. • Consult with Native American tribes and Alaska Native groups to locate any areas of vegetation that are of significance to the tribe and that might be affected by herbicide treatments.
Visual Resources See handbooks H-8410-1 (*Visual Resource Inventory*) and H-8431-1 (*Visual Resource Contrast Rating*), and manual 8400 (*Visual Resource Management*)	• 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.

• Resource Element	• Standard Operating Procedure
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*)	• Use the "minimum tool" to treat noxious and invasive vegetation, relying primarily on use of ground-based tools, including backpack pumps, hand sprayers, and pumps mounted on pack and saddle stock. • 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.
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. • Use herbicides during periods of low human use, where feasible.
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.
Human Health and Safety See Manual M-1703 (*Hazard Management and Resource Restoration*).	• 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. • Use protective equipment as directed by the herbicide label. • Provide public notification in newspapers or other media where the potential exists for public exposure. • Notify local emergency personnel of proposed treatments. • Notify local emergency response agencies of herbicides stored on-site. • Contain and clean up spills and request help as needed. • Secure containers during transport. • Dispose of unwanted herbicides, contaminated materials, and pesticide containers promptly and correctly • Clean vehicles and equipment to prevent further contamination by chemicals. • Consult with Native American tribes and Alaska Native groups to locate any areas of vegetation that are of significance to the tribe or areas that are important for natural materials and food gathering and that might be affected by herbicide treatments.

Appendix B. Consultation Documents

United States Department of the Interior

FISH AND WILDLIFE SERVICE

5275 Leesburg Pike
MS-ES
Falls Church, Virginia 22041

In Reply Refer To:
FWS/AES/DER/BNC/080752
2024-0074972-S7

Memorandum

To: Assistant Director, Resources and Planning, Bureau of Land Management (Attn: Sharif Branham)

From: Chief, Branch of National Consultations, Ecological Services

Subject: Informal Consultation on Bureau of Land Management's Draft Programmatic Environmental Impact Statement for Approval of Seven Herbicide Active Ingredients for Use on Public Lands to Treat Invasive Plants.

This memorandum responds to the Bureau of Land Management (BLM), Division of Resource and Planning's December 23, 2023, letter, and accompanying Biological Assessment (BA), requesting our concurrence that the proposed vegetation treatments using herbicides as described in their draft Programmatic Environmental Impact Statement (PEIS) for Approval of Seven Herbicide Active Ingredients for Use on Public Lands to Treat Invasive Plants "may affect, but is not likely to adversely affect (NLAA)," federally listed or proposed species, non-essential experimental populations, or designated or proposed critical habitats (listed species and critical habitats) that occur on BLM administered lands nationwide (see Species and Critical Habitat List - Attachment A). At a programmatic level, BLM evaluated the effects of using the herbicide active ingredients aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin on listed species and critical habitats that are known to or could occur within BLM administered lands. BLM seeks to recover or maintain populations of listed species and their critical habitats using vegetation treatments and will adhere to Standard Operating Procedures (SOPs) and conservation measures that are components of their programmatic action. The Service provides this response pursuant to section 7(a)(2) of the Endangered Species Act of 1973 (ESA), as amended.

Previous Herbicide Vegetation Treatment Section 7(a)(2) Consultations

In 2006, BLM consulted with the Service on the programmatic use of 18 herbicide active ingredients for use in vegetation treatments in 17 western states. In 2015, they further consulted on incorporating three herbicide active ingredients into their approved list. This addition aimed to increase flexibility and options for designing herbicide treatment programs for local projects. Both consultations included standard operating procedures (SOPs) and conservation measures to be incorporated into local level projects to mitigate risks to federally listed species and critical habitats during the development and implementation of site-specific actions. All such actions were mandated to undergo section 7(a)(2) consultation with local Service field offices in cases where potential impacts on listed species or designated critical habitat were identified.

The Service ultimately concurred with BLM in those two consultations. Although BLM approved those herbicide active ingredients for use on BLM-managed lands, the programmatic action did not prescribe their application, but rather included them as optional tools for vegetation management. In addition, BLM developed specific SOPs and conservation measures under the PEIS, including that any local site-specific action that "may affect" listed species or critical habitat undergo section 7(a)(2) consultation with the local Service field office. In general, programs such as the vegetation management PEIS, are better described as a strategy for completing future site-specific actions. This strategy by itself has no effect on listed species or critical habitats that can be meaningfully identified and evaluated. Thus, the Service concurred that those two programmatic actions by themselves would not likely adversely affect listed species or designated critical habitats.

Description of the Action

BLM proposes to use herbicides to treat vegetation on BLM-administered lands in the U.S. In addition to the 17 western states included in the 2016 Programmatic Environmental Impact Statement (PEIS), this PEIS includes approximately 11,000 surface acres in the eastern U.S. Proposed vegetation treatments could occur anywhere on the approximately 247 million acres of BLM lands in 29 states, although actual treatment methods, acres treated, and treatment locations would be determined at the local field level. BLM proposes a maximum treatment area of approximately 932,000 acres annually using herbicides.

BLM currently employs 21 active ingredients as authorized by Records of Decisions for two PEISs from 2007 and 2016. However, since the issuance of those PEISs, several new active ingredients have entered the market and have been assessed for human health and ecological risk. Those active ingredients would benefit BLM's

weed control capability by increasing herbicide treatment options to better target problematic weeds, reduce impacts on nontarget species, and help prevent weed-developed herbicide resistance that can result from repeated use of the same active ingredients. Under the proposed action, BLM proposes to add seven herbicide active ingredients (i.e., aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin) to its suite of tools for vegetation treatment activities.

The proposed active ingredients would be integrated into BLM's vegetation treatment activities. They could be used throughout BLM-administered lands, subject to applicable restrictions on their usage, such as those identified on the individual pesticide label and restrictions by each state's pesticide regulatory agency. BLM would follow prevention measures and SOPs designed to minimize risks to human health and the environment from herbicide treatment actions. SOPs are management controls and performance standards that are required of all herbicide treatments. They are intended to protect and enhance natural resources that could be affected by herbicide treatments. Site-specific NEPA analyses and section 7(a)(2) consultation (if listed species/critical habitats present) would be required prior to on-the-ground use of the active ingredients.

Conservation Measures

As a part of the proposed action, BLM has identified Prevention Measures, Standard Operating Procedures (SOPs), and Conservation Measures that will be incorporated into local level projects (Attachment B). These SOPs and conservation measures are designed to prevent the introduction and spread of noxious weeds and minimize risks to listed species and critical habitats. They include the following:

- Prevention measures during project planning, development, and revegetation phases to minimize the risk of introducing or spreading noxious weeds.
- Herbicide treatment planning, which includes, but not limited to, evaluation of the need for chemical treatments and their potential for impact on the environment, use of BLM-approved herbicides, development of pesticide use proposals, measures to minimize spray drift (e.g., applying herbicides at <10 mph for ground applications), applying herbicide buffers near bodies of water, information on project specifications, key personnel responsibilities and communication, safety, and spill and response, and emergency procedures.
- Procedures specific to site revegetation after treatments to promote establishment and/or recovery by the native plant community.

- Special precautions to minimize impacts to special status species, including a survey of each project site for listed and proposed species prior to vegetation treatment activities and associated consultation with the Service.
- Specific measures to minimize impacts to pollinators, fish and other aquatic organisms, wildlife, listed and proposed species and critical habitats, and other sensitive species.

Conclusion

BLM's programmatic action approves the potential use of seven additional active ingredients for use on BLM-managed lands. The programmatic action does not prescribe their application, but rather includes them as optional tools for vegetation management at the local level. As stated previously, BLM's action is more of a strategy on how to carry out these types of projects, rather than a prescription for such action.

Prior to implementation of any site-specific action using aminocyclopyrachlor, clethodim, fluazifop-P-butyl, flumioxazin, imazamox, indaziflam, and oryzalin, BLM field offices will use the Service's Information for Planning and Consultation website (https://ipac.ecosphere.fws.gov/) to get the most up to date species and critical habitat list for their project area. If BLM makes a "may affect" determination for listed species or critical habitats (see Attachment C – Consultation Process), BLM will initiate informal consultation with the Service. Informal consultation will include a site-specific analysis of potential effects to listed species or critical habitat from proposed vegetation treatment actions. During local level consultations, the BLM will be able to determine more specifically which species might be impacted by the proposed treatments, the nature and extent of potential impacts, and if additional conservation measures are needed to reduce potential adverse effects to these species. BLM's conservation measures were designed to reduce the chance of any negative effects occurring because of herbicide application to the point where the likelihood of such effects would be discountable, or to reduce any potential effects to the point where they would be insignificant to the species or critical habitats and never reach the scale where take occurs. Additionally, BLM does not need to reinitiate at the programmatic level for newly proposed or listed species or critical habitat, as that will be done at the local level.

It is through BLM's adherence to the SOPs, implementation of conservation measures identified in their BA, and the requirement for site-specific consultations to occur prior to any use of the seven active ingredients, that we concur that the proposed action is not likely to adversely affect threatened or endangered species, proposed species, non-essential experimental populations or designated or proposed critical habitats under the jurisdiction of the Service. If any subsequent action does not

conform to those standards under BLM's vegetation treatment program, it may be necessary to conduct formal consultation on that particular action, as it would fall outside this programmatic consultation.

We encourage BLM to work with us to develop a programmatic consultation on their current vegetation treatment program using herbicides. Developing upfront species/taxa and critical habitat specific measures for all herbicide active ingredients in BLM's program may eliminate or substantially reduce local level consultations in the future. Only under those conditions where a project could not follow agreed upon SOPs and species/critical habitat specific measures, would a site-specific consultation be needed.

This concludes informal consultation on BLM's Vegetation Treatment PEIS. As stated in 50 CFR § 402.16, reinitiation of consultation is required and shall be requested by BLM or the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (1) If new information reveals effects of the action that may affect listed species or critical habitat in a manner to an extent not previously considered; or (2) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter.

If you have any questions or require additional information, please contact Keith Paul (keith_paul@fws.gov, 703-358-2675) or Angel Colón-Santiago (angel_colon-santiago@fws.gov, 703-358- 2424).

Attachment A – Species and Critical Habitat List
Attachment B – Prevention Measures and SOPs
Attachment C – Consultation Protocol

Attachment A - Species and Critical Habitat List

Species Group	Scientific Name	Common Name	Status	State	Critical Habitat	Critical Habitat on BLM Lands
Amphibians	Ambystoma californiense	California tiger salamander - Central California DPS	T	CA	Yes	Unknown
Amphibians	Ambystoma californiense	California tiger salamander - Santa Barbara County DPS	E	CA	Yes	Unknown
Amphibians	Ambystoma californiense	California tiger salamander - Sonoma County DPS	E	CA	Yes	Unknown
Amphibians	Ambystoma tigrinum stebbinsi	Sonora tiger salamander	E	AZ	No	NA
Amphibians	Anaxyrus californicus	Arroyo toad	E	CA	Yes	453 acres
Amphibians	Anaxyrus canorus	Yosemite toad	T	CA	Proposed	Proposed
Amphibians	Anaxyrus williamsi	Dixie Valley toad	E	NV	No	NA
Amphibians	Batrachoseps aridus	Desert slender salamander	E	CA	No	NA
Amphibians	Bufo baxteri	Wyoming toad	E	WY	No	NA
Amphibians	Rana boylii	Foothill yellow-legged frog (Coast Range DPS)	E	CA	No	NA
Amphibians	Rana boylii	Foothill yellow-legged frog (Sierra Nevada Mtns DPS)	E	CA	No	NA
Amphibians	Rana boylii	Foothill yellow-legged frog (Central Coast Range DPS)	T	CA	No	NA
Amphibians	Rana boylii	Foothill yellow-legged frog (North Feather River DPS)	T	CA	No	NA
Amphibians	Rana chiricahuensis	Chiricahua leopard frog	T	AZ, NM	Yes	1,364 acres (AZ); 27 acres (NM)
Amphibians	Rana draytonii	California red-legged frog	T	CA	Yes	5,207 acres
Amphibians	Rana muscosa	Mountain yellow-legged frog (Northern DPS)	E	CA	Proposed	None
Amphibians	Rana pretiosa	Oregon spotted frog	T	OR	Proposed	Proposed
Amphibians	Rana sierrae	Sierra Nevada yellow-legged frog	E	CA	Proposed	None
Arthropods	Ambrysus amargosus	Ash Meadows naucorid	T	NV	Yes	None
Arthropods	Boloria acrocnema	Uncompahgre fritillary butterfly	E	CO	No	NA
Arthropods	Bombus franklini	Franklin's bumble bee	E	CA, OR	No	NA
Arthropods	Branchinecta conservatio	Conservancy fairy shrimp	E	CA	Yes	7 acres
Arthropods	Branchinecta longiantenna	Longhorn fairy shrimp	E	CA	Yes	31 acres
Arthropods	Branchinecta lynchi	Vernal pool fairy shrimp	T	CA, OR	Yes	4,122 acres (CA); 423 acres (OR)
Arthropods	Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	T	CA	Yes	None
Arthropods	Euphydryas editha quino	Quino checkerspot butterfly	E	CA	Yes	11,444 acres
Arthropods	Euphydryas editha taylori	Taylor's checkerspot butterfly	E	OR	Yes	None
Arthropods	Euproserpinus euterpe	Kern primrose sphinx moth	T	CA	No	NA
Arthropods	Gammarus desperatus	Noel's amphipod	E	NM	Yes	None
Arthropods	Hesperia leonardus montana	Pawnee montane skipper	T	CO	No	NA
Arthropods	Icaricia icarioides fenderi	Fender's blue butterfly	E	OR	Yes	249 acres
Arthropods	Lepidurus packardi	Vernal pool tadpole shrimp	E	CA	Yes	15,749 acres
Arthropods	Lycaena hermes	Hermes copper butterfly	T	CA	Yes	Unknown
Arthropods	Nicrophorus americanus	American burying beetle	E	MT, WY	No	NA
Arthropods	Pseudocopaeodes eunus obscurus	Carson wandering skipper	E	CA, NV	No	NA
Arthropods	Speyeria nokomis nokomis	Silverspot	T	CO, NM, UT	No	NA
Arthropods	Speyeria zerene hippolyta	Oregon silverspot butterfly	T	OR	Yes	None
Arthropods	Thermosphaeroma thermophilus	Socorro isopod	E	NM	No	NA
Birds	Brachyramphus marmoratus	Marbled murrelet	T	CA, OR	Yes	85,495 acres (CA); 483,018 acres (OR)
Birds	Centrocercus minimus	Gunnison sage-grouse	T	CO, UT	Yes	610,000 acres (CO/UT)
Birds	Centrocercus urophasianus	Greater sage-grouse (Bi-State DPS)	PT	CA	Proposed	Proposed
Birds	Charadrius melodus	Piping plover	T	CO, MT, NM, WY	Yes	1,758 acres (MT)
Birds	Charadrius nivosus nivosus	Western snowy plover (Pacific population)	T	CA, OR	Yes	67 acres (CA); 273 acres (OR)
Birds	Coccyzus americanus	Yellow-billed cuckoo (Western DPS)	T	AZ, CA, CO, MT, NM, NV, OR, WY, UT	Proposed	Proposed
Birds	Empidonax traillii extimus	Southwestern willow flycatcher	E	AZ, CA, CO, NV, NM, UT	Yes	96 miles (AZ); 9.4 miles (CA); 20.6 miles (CO); 22 miles (NM); 19 miles (NV); 25 miles (UT)
Birds	Eremophila alpestris strigata	Streaked horned lark	T	OR	Yes	None
Birds	Falco femoralis septentrionalis	Northern aplomado falcon	E, XN	AZ, NM	No	NA
Birds	Glaucidium brasilianum cactorum	Cactus ferruginous pygmy-owl	E	AZ	Yes	91,000 acres

Species Group	Scientific Name	Common Name	Status	State	Critical Habitat	Critical Habitat on BLM Lands
Birds	Grus americana	Whooping crane	E, XN	CO, ID, MT, WY	Yes	35 acres (CO); 379 acres (ID)
Birds	Gymnogyps californianus	California condor	E, XN	E = CA; XN = UT, AZ	Yes	3,964 acres (CA)
Birds	Phoebastria (=Diomedea) albatrus)	Short-tailed albatross	E	AK, CA	No	NA
Birds	Pipilo crissalis eremophilus	Inyo California towhee	T	CA	Yes	695 acres
Birds	Polioptila californica californica	Coastal California gnatcatcher	T	CA	Yes	8,862 acres
Birds	Polysticta stelleri	Steller's eider	T	AK	Yes	597 acres
Birds	Rallus longirostris yumanensis	Yuma clapper rail	E	AZ, CA, NV	No	NA
Birds	Somateria fischeri	Spectacled eider	T	AK	Yes	1 acre
Birds	Strix occidentalis caurina	Northern spotted owl	T	CA, OR	Yes	1,328,612 acres
Birds	Strix occidentalis lucida	Mexican spotted owl	T	AZ, CA, CO, NM, UT	Yes	795 acres (AZ); 61,994 acres (CO); 2,341 acres (NM); 1,456,144 acres (UT)
Birds	Tympanachus pallidicinctus	Lesser prairie-chicken (Northern DPS)	T	CO, KS, OK, TX	No	NA
Birds	Tympanachus pallidicinctus	Lesser prairie-chicken (Southern DPS)	E	NM, TX	No	NA
Birds	Vireo bellii pusillus	Least Bell's vireo	E	CA	Yes	None
Fishes	Acipenser transmontanus	White sturgeon (Kootenia River population)	E	ID, MT	Yes	42 acres (ID)
Fishes	Catostomus santaanae	Santa Ana sucker	T	CA	Yes	26 acres
Fishes	Catostomus warnerensis	Warner sucker	T	CA, NV, WA	Yes	None
Fishes	Chasmistes brevirostris	Shortnose sucker	E	CA, OR	Yes	9 miles stream, 1,390 acres lake (OR)
Fishes	Chasmistes cujus	Cui-ui	E	NV	No	NA
Fishes	Chasmistes liorus	June sucker	E	UT	Yes	None
Fishes	Crenichthys baileyi baileyi	White River springfish	E	NV	Yes	1 acre
Fishes	Crenichthys baileyi grandis	Hiko White River springfish	E	NV	Yes	None
Fishes	Crenichthys nevadae	Railroad Valley springfish	T	NV	Yes	129 acres
Fishes	Cyprinella formosa	Beautiful shiner	T	AZ, NM	Yes	None
Fishes	Cyprinodon diabolis	Devil's Hole pupfish	E	NV	No	NA
Fishes	Cyprinodon macularius	Desert pupfish	E	AZ, CA	Yes	485 acres (CA)
Fishes	Cyprinodon nevadensis mionectes	Ash Meadows Amargosa pupfish	E	NV	Yes	62 acres
Fishes	Cyprinodon nevadensis pectoralis	Warm Springs pupfish	E	NV	No	NA
Fishes	Cyprinodon radiosus	Owens pupfish	E	CA	No	NA
Fishes	Deltistes luxatus	Lost River sucker	E	CA, OR	Yes	351 acres (OR)
Fishes	Empetrichthys latos	Pahrump poolfish	E	NV	No	NA
Fishes	Eremichthys acros	Desert dace	T	NV	Yes	1,955 acres
Fishes	Eucyclogobius newberryi	Tidewater goby	E	CA	Yes	None
Fishes	Gambusia nobilis	Pecos gambusia	E	NM	No	NA
Fishes	Gasterosteus aculeatus williamsoni	Unarmored threespine stickleback	E	CA	No	NA
Fishes	Gila bicolor mohavensis	Mohave tui chub	E	CA	No	NA
Fishes	Gila bicolor snyderi	Owens tui chub	E	CA	Yes	None
Fishes	Gila bicolor ssp.	Hutton tui chub	T	OR	No	NA
Fishes	Gila cypha	Humpback chub	E	AZ, CO, UT, WY	Yes	1,953 acres (UT); 323 acres (CO)
Fishes	Gila elegans	Bonytail chub	E	AZ, CA, CO, NV, UT, WY	Yes	6,214 acres (AZ); 1,480 acres (CA); 323 acres (CO); 1,953 acres (UT)
Fishes	Gila intermedia	Gila chub	E	AZ, NM	Yes	1,911 acres (AZ)
Fishes	Gila robusta jordani	Pahranagat roundtail chub	E	NV	No	NA
Fishes	Gila seminuda	Virgin River chub	E	AZ, NV, UT	Yes	879 acres (AZ); 818 acres (NV); 420 acres (UT)
Fishes	Hybognathus amarus	Rio Grande silvery minnow	E	NM	Yes	96 acres
Fishes	Hypomesus transpacificus	Delta smelt	T	CA	Yes	1,752 acres
Fishes	Lepidomeda albivallis	White River spinedace	E	NV	Yes	None
Fishes	Lepidomeda mollispinis pratensis	Big Spring spinedace	T	NV	Yes	32 acres
Fishes	Lepidomeda vittata	Little Colorado spinedace	T	AZ	Yes	None
Fishes	Macrhybopsis tetranema	Peppered chub	E	KS, NM, OK, TX	Yes	Unknown
Fishes	Meda fulgida	Spikedace	E	AZ, NM	Yes	41 miles (AZ); 12 miles (NM)
Fishes	Moapa coriacea	Moapa dace	E	NV	No	NA
Fishes	Notropis girardi	Arkansas River shiner	T	NM	Yes	None
Fishes	Notropis simus pecosensis	Pecos bluntnose shiner	T	NM	Yes	293 acres
Fishes	Oncorhynchus clarki henshawi	Lahontan cutthroat trout	T	CA, CO, NV, OR, UT	No	NA
Fishes	Oncorhynchus clarki stomias	Greenback cutthroat trout	T	CO	No	NA

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Fishes	Oncorhynchus gilae	Gila trout	T	AZ, NM	No	NA
Fishes	Plagopterus argentissimus	Woundfin	E	AZ, NV, NM, UT	Yes	879 acres (AZ); 420 acres (UT)
Fishes	Poeciliopsis occidentalis	Gila topminnow	E	AZ, NM	No	NA
Fishes	Ptychocheilus lucius	Colorado pikeminnow	E, XN	AZ, CA, CO, NM, UT, WY	Yes	2,644 acres (CO); 67 acres NM; 5,119 acres (UT)
Fishes	Rhinichthys osculus lethoporus	Independence Valley speckled dace	E	NV	No	NA
Fishes	Rhinichthys osculus nevadensis	Ash Meadows speckled dace	E	NV	Yes	60 acres
Fishes	Rhinichthys osculus oligoporus	Clover Valley speckled dace	E	NV	No	NA
Fishes	Rhinichthys osculus thermalis	Kendall Warm Springs dace	E	WY	No	NA
Fishes	Salvelinus confluentus	Bull trout	T, XN	ID, MT, NV, OR	Yes	7,669 acres, 907 miles (ID); 2,048 acres, 210 miles (OR); 25 miles (MT); 12 miles (NV)
Fishes	Scaphirhynchus albus	Pallid sturgeon	E	CO, MT, WY	No	NA
Fishes	Tiaroga cobitis	Loach minnow	E	AZ, NM	Yes	41 miles (AZ); 13 miles (NM)
Fishes	Xyrauchen texanus	Razorback sucker	E	AZ, CA, CO, NM, NV, UT, WY	Yes	822 acres (AZ); 1,076 acres (CA); 1,996 acres (CO); 4,734 acres (UT)
Mammals	Antilocapra americana sonoriensis	Sonoran pronghorn	E, XN	AZ	No	NA
Mammals	Brachylagus idahoensis	Pygmy rabbit	E	OR	No	NA
Mammals	Canis lupus	Gray wolf	E, XN	AZ, CO, ID, NM, NV, MT, OR, UT, WY	Yes	None
Mammals	Cynomys parvidens	Utah prairie dog	T	UT	No	NA
Mammals	Dipodomys heermanni morroensis	Morro Bay kangaroo rat	E	CA	Yes	None
Mammals	Dipodomys ingens	Giant kangaroo rat	E	CA	No	NA
Mammals	Dipodomys merriami parvus	San Bernardino Merriam's kangaroo rat	E	CA	Yes	1,030 acres
Mammals	Dipodomys nitratoides exilis	Fresno kangaroo rat	E	CA	Yes	None
Mammals	Dipodomys nitratoides nitratoides	Tipton kangaroo rat	E	CA	No	NA
Mammals	Dipodomys stephensi	Stephens' kangaroo rat	E	CA	No	NA
Mammals	Gulo gulo luscus	North American wolverine	T	CA, ID, MT, NV, OR, UT, WA, WY	No	NA
Mammals	Leopardus pardalis	Ocelot	E	AZ	No	NA
Mammals	Leptonycteris curosoae yerbabuenae	Lesser long-nosed bat	E	AZ, NM	No	NA
Mammals	Leptonycteris nivalis	Mexican long-nosed bat	E	NM	No	NA
Mammals	Lynx canadensis	Canada lynx	T	CO, ID, MT, NM, OR, UT, WY	Yes	3 acres (ID); 103,475 acres (MT); 2,531 acres (OR); 1,426 acres (WY)
Mammals	Microtus californicus scirpensis	Amargosa vole	E	CA	Yes	3,847 acres
Mammals	Mustela nigripes	Black-footed ferret	E, XN	E = AZ, CO, MT, UT, WY XN = AZ, CO, MT, UT, WY	No	NA
Mammals	Neotoma fuscipes riparia	Riparian woodrat	E	CA	No	NA
Mammals	Odocoileus virginianus leucurus	Columbian white-tailed deer	T	OR, WA	No	NA
Mammals	Ovis canadensis nelsoni	Peninsular bighorn sheep	E	CA	Yes	102,686 acres
Mammals	Ovis canadensis sierrae	Sierra Nevada bighorn sheep	E	CA	Yes	990 acres
Mammals	Panthera onca	Jaguar	E	AZ, NM	Proposed	Proposed
Mammals	Rangifer tarandus caribou	Woodland caribou	E	OR	Proposed	None
Mammals	Sorex ornatus relictus	Buena Vista Lake ornate shrew	E	CA	Yes	None
Mammals	Urocitellus brunneus	Northern Idaho ground squirrel	T	ID	No	NA
Mammals	Ursus arctos horribilis	Grizzly bear	T	ID, MT, OR, WY	No	NA
Mammals	Vulpes macrotis mutica	San Joaquin kit fox	E	CA	No	NA
Mammals	Zapus hudsonius luteus	New Mexico meadow jumping mouse	E	AZ, CO, NM	Yes	4.8 acres (CO)
Mammals	Zapus hudsonius preblei	Preble's meadow jumping mouse	T	CO, WY	Yes	6 acres (CO)
Mollusks	Assiminea pecos	Pecos assiminea snail	E	NM	Yes	No
Mollusks	Helminthoglypta walkeriana	Morro shoulderband snail	E	CA	Yes	5 acres
Mollusks	Juturnia kosteri	Koster's springsnail	E	NM	Yes	No
Mollusks	Lanx sp.	Banbury Springs limpet	E	ID	No	NA
Mollusks	Physa natricina	Snake River physa snail	E	ID	No	NA
Mollusks	Pyrgulopsis bruneauensis	Bruneau Hot springsnail	E	ID	No	NA
Mollusks	Pyrgulopsis neomexicana	Socorro springsnail	E	NM	No	NA
Mollusks	Pyrgulopsis roswellensis	Roswell springsnail	E	NM	Yes	No
Mollusks	Taylorconcha serpenticola	Bliss Rapids snail	T	ID	No	NA

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Mollusks	Tryonia alamosae	Alamosa springsnail	E	NM	No	NA
Plants	Acanthomintha ilicifolia	San Diego thornmint	T	CA	Yes	None
Plants	Allium munzii	Munz's onion	E	CA	Yes	63 acres
Plants	Ambrosia pumila	San Diego ambrosia	E	CA	Yes	None
Plants	Amsonia kearneyana	Kearney's blue-star	E	AZ	No	NA
Plants	Arabis mcdonaldiana	McDonald's rock-cress	E	CA, OR	No	NA
Plants	Arctomecon humilis	Dwarf bear-poppy	E	UT	No	NA
Plants	Arctostaphylos morroensis	Morro manzanita	T	CA	No	NA
Plants	Arctostaphylos myrtifolia	Ione manzanita	T	CA	No	NA
Plants	Arenaria paludicola	Marsh sandwort	E	OR	No	NA
Plants	Argemone pleiacantha ssp. pinnatisecta	Sacramento prickly poppy	E	NM	No	NA
Plants	Asclepias welshii	Welsh's milkweed	T	AZ, UT	Yes	1,760 acres (UT)
Plants	Astragalus albens	Cushenbury milk-vetch	E	CA	Yes	839 acres
Plants	Astragalus ampullarioides	Shivwitz milk-vetch	E	UT	Yes	819 acres
Plants	Astragalus applegatei	Applegate's milk-vetch	E	OR	No	NA
Plants	Astragalus brauntonii	Braunton's milk-vetch	E	CA	Yes	None
Plants	Astragalus holmgreniorum	Holmgren milk-vetch	E	AZ, UT	Yes	362 acres (AZ); 2,447 acres (UT)
Plants	Astragalus humillimus	Mancos milk-vetch	E	CO, NM	No	NA
Plants	Astragalus jaegerianus	Lane Mountain milk-vetch	E	CA	Yes	9,897 acres
Plants	Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	E	CA	Yes	3,494 acres
Plants	Astragalus lentiginosus var. piscinensis	Fish Slough milk-vetch	T	CA	Yes	5,430 acres
Plants	Astragalus magdalenae var. peirsonii	Peirson's milk-vetch	T	CA	Yes	20,779 acres
Plants	Astragalus montii	Heliotrope milk-vetch	T	UT	Yes	None
Plants	Astragalus osterhoutii	Osterhout milk-vetch	E	CO	No	NA
Plants	Astragalus phoenix	Ash Meadows milk-vetch	T	NV	Yes	458 acres
Plants	Astragalus tricarinatus	Triple-ribbed milk-vetch	E	CA	No	NA
Plants	Atriplex coronata var. notatior	San Jacinto Valley crownscale	E	CA	Yes	None
Plants	Baccharis vanessae	Encinitis baccharis	T	CA	No	NA
Plants	Berberis nevinii	Nevin's barberry	E	CA	Yes	5 acres
Plants	Brodiaea filifolia	Thread-leaved brodiaea	T	CA	Yes	53 acres
Plants	Calyptridium pulchellum	Mariposa pussypaws	T	CA	No	No
Plants	Calystegia stebbinsii	Stebbins' morning-glory	E	CA	No	NA
Plants	Carex specuicola	Navajo sedge	T	UT	Yes	None
Plants	Castilleja campestris ssp. succulenta	Fleshy owl's-clover	T	CA	Yes	289 acres
Plants	Caulanthus californicus	California jewelflower	E	CA	No	NA
Plants	Ceanothus ferrisae	Coyote ceanothus	E	CA	No	No
Plants	Ceanothus roderickii	Pine Hill ceanothus	E	CA	No	NA
Plants	Centaurium namophilum	Spring-loving centaury	T	CA, NV	Yes	806 acres (NV)
Plants	Chamaesyce hooveri	Hoover's spurge	T	CA	Yes	38 acres
Plants	Chlorogalum purpureum var. purpureum	Purple amole	T	CA	Yes	None
Plants	Chorizanthe howellii	Howell's spineflower	E	CA	No	NA
Plants	Chorizanthe orcuttiana	Orcutt's spineflower	E	CA	No	NA
Plants	Chorizanthe pungens var. pungens	Monterey spineflower	T	CA	Yes	1,204 acres
Plants	Chorizanthe rogusta var. robusta	Robust spineflower	E	CA	No	NA
Plants	Cirsium fontinale var. obispoense	Chorro Creek bog thistle	E	CA	No	NA
Plants	Cirsium scariosum var. loncholepis	La Graciosa thistle	E	CA	Yes	None
Plants	Cirsium wrightii	Wright's marsh thistle	T	AZ, NM	Yes	Unknown
Plants	Clarkia springvillensis	Springville clarkia	T	CA	No	NA
Plants	Coryphantha robbinsorum	Cochise pincushion cactus	T	AZ	No	NA
Plants	Coryphantha scheeri var. robustispina	Pima pineapple cactus	E	AZ	No	NA
Plants	Coryphantha sneedii var. leei	Lee pincushion cactus	T	NM	No	NA
Plants	Coryphantha sneedii var. sneedii	Sneed pincushion cactus	E	NM	No	NA
Plants	Cycladenia humilis var. jonesii	Jones cycladenia	T	CA, AZ, UT	No	NA
Plants	Deinandra (= hemizonia) conjugens	Otay tarplant	T	CA	Yes	None
Plants	Deinandra increscens ssp. villosa	Gaviota tarplant	E	CA	Yes	None
Plants	Delphinium luteum	Yellow larkspur	E	CA	Yes	None
Plants	Dodecahema leptoceras	Slender-horned spineflower	E	CA	No	NA
Plants	Dudleya cymosa ssp. marcescens	Marcescent dudleya	T	CA	No	NA
Plants	Echinocactus horizonthalonius var. nicholli	Nichol's Turk's head cactus	E	AZ	No	NA
Plants	Echinocereus fendleri var. kuenzleri	Kuenzler hedgehog cactus	E	NM	No	NA
Plants	Echinocereus triglochidiatus var. arizonicus	Arizona hedgehog cactus	E	AZ	No	NA
Plants	Echinomastus erectocentrus var. acunensis	Acuna cactus	E	AZ	Proposed	4,625 acres (proposed)
Plants	Enceliopsis nudicaulis var. corrugata	Ash Meadows sunray	T	NV	Yes	773 acres
Plants	Eremalche kernensis	Kern mallow	E	CA	No	NA
Plants	Eriastrum densifolium ssp. sanctorum	Santa Ana River woolly-star	E	CA	No	NA

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Plants	Erigeron decumbens var. decumbens	Willamette daisy	E	OR	Yes	208 acres
Plants	Erigeron parishii	Parish's daisy	T	CA	Yes	945 acres
Plants	Erigeron rhizomatus	Zuni fleabane	T	AZ, NM	No	NA
Plants	Eriodictyon altissimum	Indian Knob mountain balm	E	CA	No	NA
Plants	Eriodictyon capitatum	Lompoc yerba santa	E	CA	Yes	None
Plants	Eriogonum apricum	Ione buckwheat	E	CA	No	NA
Plants	Eriogonum gypsophilum	Gypsum wild-buckwheat	T	NM	Yes	537 acres
Plants	Eriogonum ovalifolium var. vineum	Cushenbury buckwheat	E	CA	Yes	423 acres
Plants	Eriogonum ovalifolium var. williamsiae	Steamboat buckwheat	E	NV	No	NA
Plants	Eriogonum pelinophilum	Clay-loving wild-buckwheat	E	CO	Yes	None
Plants	Eriogonum tiehmii	Tiehm's buckwheat	E	NV	Yes	Unknown
Plants	Erysimum menziesii	Menzies' wallflower	E	CA	No	NA
Plants	Eutrema penlandii	Penland alpine fen mustard	T	CO	No	NA
Plants	Fremontodendron californicum ssp. decumbens	Pine Hill flannelbush	E	CA	No	NA
Plants	Fremontodendron mexicanum	Mexican flannelbush	E	CA	Yes	224 acres
Plants	Fritillaria gentneri	Gentner's fritillary	E	OR	No	NA
Plants	Galium californicum ssp. sierrae	El Dorado bedstraw	E	CA	No	NA
Plants	Gilia tenuiflora ssp. arenaria	Monterey gilia	E	CA	No	NA
Plants	Grindelia fraxino-pratensis	Ash Meadows gumplant	T	CA, NV	Yes	292 acres (CA)
Plants	Hackelia venusta	Showy stickseed	E	OR	No	NA
Plants	Hedeoma todsenii	Todsen's pennyroyal	E	NM	Yes	None
Plants	Helianthus paradoxus	Pecos sunflower	T	NM	Yes	None
Plants	Ipomopsis polyantha	Pagosa skyrocket	E	CO	Yes	42 acres
Plants	Ivesia kingii var. eremica	Ash Meadows ivesia	T	NV	Yes	335 acres
Plants	Ivesia webberi	Webber ivesia	T	CA, NV	Yes	228 acres (CA); 66 acres (NV)
Plants	Lasthenia conjugens	Contra Costa goldfields	E	CA	Yes	None
Plants	Layia carnosa	Beach layia	E	CA	No	NA
Plants	Lembertia congdonii	San Joaquin wooly-threads	E	CA	No	NA
Plants	Lepidium barnebyanum	Barneby ridge-cress	E	UT	No	NA
Plants	Lepidium papilliferum	Slickspot peppergrass	T	ID	Proposed	57,756 acres (proposed)
Plants	Lesquerella congesta	Dudley Bluffs bladderpod	T	CO	No	NA
Plants	Lesquerella tumulosa	Kodachrome bladderpod	E	UT	No	NA
Plants	Lilaeopsis schaffneriana var. recurva	Huachuca water-umbel	E	AZ	Yes	484 acres
Plants	Lilium occidentale	Western lily	E	CA, OR	No	NA
Plants	Limnanthes floccosa ssp. californica	Butte County meadowfoam	E	CA	Yes	None
Plants	Limnanthes floccosa ssp. grandiflora	Large-flowered woolly meadowfoam	E	OR	Yes	None
Plants	Lomatium bradshawii	Bradshaw's desert-parsley	E	OR	No	NA
Plants	Lomatium cookii	Cook's lomatium	E	OR	Yes	1,621 acres
Plants	Lupinus sulphureus ssp. kincaidii	Kincaid's lupine	T	OR, WA	Yes	34 acres (OR)
Plants	Mentzelia leucophylla	Ash Meadows blazingstar	T	NV	Yes	509 acres
Plants	Mirabilis macfarlanei	MacFarlane's four-o'clock	T	ID, OR	No	NA
Plants	Monardella viminea	Willowy monardella	E	CA	Yes	No
Plants	Monolopia congdonii (formerly Lembertia congdonii)	San Joaquin woolly-threads	E	CA	No	NA
Plants	Neostapfia colusana	Colusa grass	T	CA	Yes	7 acres
Plants	Nitrophila mohavensis	Amargosa niterwort	E	CA, NV	Yes	1,200 acres (CA)
Plants	Opuntia treleasei	Bakersfield cactus	E	CA	No	NA
Plants	Orcuttia californica	California Orcutt grass	E	CA	No	NA
Plants	Orcuttia inaequalis	San Joaquin Valley Orcutt grass	T	CA	Yes	289 acres
Plants	Orcuttia pilosa	Hairy Orcutt grass	E	CA	Yes	18 acres
Plants	Orcuttia tenuis	Slender Orcutt grass	T	CA	Yes	17,077 acres
Plants	Oxytheca parishii var. goodmaniana	Cushenbury oxytheca	E	CA	Yes	84 acres
Plants	Pediocactus bradyi	Brady pincushion cactus	E	AZ	No	NA
Plants	Pediocactus despainii	San Rafael cactus	E	NM, UT	No	NA
Plants	Pediocactus knowltonii	Knowlton's cactus	E	CO, NM	No	NA
Plants	Pediocactus peeblesianus var. fickeiseniae	Fickeisen plains cactus	E	AZ	Proposed	Proposed
Plants	Pediocactus peeblesianus var. peeblesianus	Peebles Navajo cactus	E	AZ	No	NA
Plants	Pediocactus sileri	Siler pincushion cactus	T	AZ, UT	No	NA
Plants	Pediocactus winkleri	Winkler cactus	T	UT	No	NA
Plants	Penstemon debilis	Parachute beardtongue	T	CO	Yes	13,912 acres
Plants	Penstemon haydenii	Blowout penstemon	E	WY	No	NA
Plants	Penstemon penlandii	Penland beardtongue	E	CO	No	NA
Plants	Phacelia argentea	Sand dune phacelia	T	CA, OR	Yes	Unknown
Plants	Phacelia argillacea	Clay phacelia	E	UT	No	NA
Plants	Phacelia formosula	North Park phacelia	E	CO	No	NA

Species Group	Scientific Name	Common Name	Status	State	Critical Habitat	Critical Habitat on BLM Lands
Plants	Phacelia submutica	DeBeque phacelia	T	CO	Yes	22,013 acres
Plants	Phlox hirsuta	Yreka phlox	E	CA	No	NA
Plants	Physaria obcordata	Dudley Bluffs (Piceance) twinpod	T	CO, UT	No	NA
Plants	Pinus albicaulis	Whitebark pine	T	CA, ID, MT, NV, OR, WA, WY	No	NA
Plants	Piperia yadonii	Yadon's piperia	E	CA	Yes	No
Plants	Plagiobothrys hirtus	Rough popcornflower	E	OR	No	NA
Plants	Plantanthera praeclara	Western prairie fringed orchid	T	MT, WY	No	NA
Plants	Pogogyne nudiuscula	Otay mesa-mint	E	CA	No	NA
Plants	Polystichum aleuticum	Aleutian shield fern	E	AK	No	NA
Plants	Primula maguirei	Maguire primrose	T	UT	No	NA
Plants	Pseudobahia bahiifolia	Hartweg's golden sunburst	E	CA	No	NA
Plants	Pseudobahia peirsonii	San Joaquin adobe sunburst	T	CA	No	NA
Plants	Purshia subintegra	Arizona cliff-rose	E	AZ	No	NA
Plants	Ranunculus aestivalis	Autumn buttercup	E	UT	No	NA
Plants	Schoenocrambe argillacea	Clay reed-mustard	T	NM, UT	No	NA
Plants	Schoenocrambe barnebyi	Barneby reed-mustard	E	ID, UT	No	NA
Plants	Schoenocrambe suffrutescens	Shrubby reed-mustard	E	UT	No	NA
Plants	Sclerocactis wetlandicus	Uinta Basin hookless cactus	T	UT	No	NA
Plants	Sclerocactus brevispinus	Pariette cactus	T	UT	No	NA
Plants	Sclerocactus glaucus	Colorado hookless cactus	T	CO	No	NA
Plants	Sclerocactus mesae-verdae	Mesa Verde cactus	T	CO, NM, UT	No	NA
Plants	Sclerocactus wrightiae	Wright fishhook cactus	E	UT	No	NA
Plants	Senecio layneae	Layne's butterweed	T	CA	No	NA
Plants	Sidalcea keckii	Keck's checker-mallow	E	CA	Yes	0.2 acres
Plants	Sidalcea nelsoniana	Nelson's checker-mallow	T	OR	No	NA
Plants	Sidalcea oregana var. calva	Wenatchee Mountains checker-mallow	E	OR	Yes	None
Plants	Silene spaldingii	Spalding's catchfly	T	ID, MT, OR, WA	No	NA
Plants	Sphaeralcea gierischii	Gierisch mallow	E	AZ, UT	Yes	9,406 acres (AZ), 1,982 acres (UT)
Plants	Spiranthes delitescens	Canelo Hills ladies'-tresses	E	AZ	No	NA
Plants	Spiranthes diluvialis	Ute ladies'-tresses	T	CO, ID, MT, NV, OR, UT, WY, NE, WA	No	NA
Plants	Stephanomeria malheurensis	Malheur wire-lettuce	E	OR	Yes	103 acres
Plants	Streptanthus albidus ssp. albidus	Metcalf Canyon jewelflower	E	CA	No	NA
Plants	Thelypodium howellii ssp. spectabilis	Howell's spectacular thelypody	T	OR	No	NA
Plants	Townsendia aprica	Last Chance townsendia	T	UT	No	NA
Plants	Tuctoria greenei	Greene's tuctoria	E	CA	Yes	7.2 acres
Plants	Verbena californica	Red Hills vervain	T	CA	No	NA
Plants	Yermo xanthocephalus	Desert yellowhead	T	WY	Yes	357 acres
Reptiles	Crotalus willardi obscurus	New Mexican ridge-nosed rattlesnake	T	AZ, NM	Yes	None
Reptiles	Gambelia silus	Blunt-nosed leopard lizard	E	CA	No	NA
Reptiles	Gopherus agassizii	Desert tortoise (Mojave population)	T	AZ, CA, NV, UT	Yes	288,069 acres (AZ); 2,720,438 acres (CA); 1,024,579 acres (NV); 96,002 acres (UT)
Reptiles	Sceloporus arenicolus	Dunes sagebrush lizard	PE	NM, TX	No	NA
Reptiles	Thamnophis eques megalops	Northern Mexican garter snake	T	AZ	Proposed	Proposed
Reptiles	Thamnophis gigas	Giant garter snake	T	CA	No	NA
Reptiles	Thamnophis rufipunctatus	Narrow-headed garter snake	T	AZ, NM	Proposed	Proposed
Reptiles	Uma inornata	Coachella Valley fringe-toed lizard	T	CA	Yes	2,358 acres

Attachment B – Prevention Measures and Standard Operating Procedures as Presented in Bureau of Land Management's Biological Assessment for Vegetation Treatments Using Herbicides - Appendix A (November 2023)

Appendix A. Prevention Measures and Standard Operating Procedures

The following appendix describes measures to prevent the introduction and spread of noxious and invasive weeds (**Table A-1**) and standard operating procedures (SOPs) for applying herbicides (**Table A-2**). The 2007 PEIS describes further the importance, priorities, and processes associated with prevention, early detection, and rapid response (BLM 2007, p. 2-23 to 2-25).

As described in the 2007 PEIS (BLM 2007, p. 2-22 to 2-23), SOPs would be followed by the BLM under all alternatives to ensure that risks to human health and the environment from herbicide treatment actions would be kept to a minimum. Standard operating procedures are the management controls and performance standards required for vegetation management treatments. These practices are intended to protect and enhance natural resources that could be affected by future vegetation treatments. For instance, following specifications on an herbicide's label may require spray at a certain droplet size which is intended to prevent offsite spread. Drift prevention may also be accomplished by the use of adjuvants or tank mixes.

BLM (US Bureau of Land Management). 2007. Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement. Reno, Nevada.

Table A-1 Prevention Measures

BLM Activity	Prevention Measure
Project Planning	• Incorporate prevention measures into project layout and design, alternative evaluation, and project decisions to prevent the introduction or spread of weeds. • Determine prevention and maintenance needs, including the use of herbicides, at the onset of project planning. • Use modeling tools (e.g., EPA's Pesticide Use Limitation Areas), as appropriate and available, during project planning to avoid impacts on resources. • 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 high-risk sites 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. • Inform the public about weed free hay, straw, and gravel requirements in applicable states. • Coordinate project activities with nearby herbicide applications to maximize the cost-effectiveness of weed treatments. • Consider adjustments in the existing grazing permit, needed to maintain desirable vegetation on the treatment site. • Identify and implement any temporary domestic livestock grazing and/or supplemental feeding restrictions needed to enhance desirable vegetation recovery following treatment. • Provide educational materials at trailheads and other wilderness entry points to educate the public on the need to prevent the spread of weeds. • Encourage backcountry pack and saddle stock users to feed their livestock only certified weed-free feed for several days before entering a wilderness area.

BLM Activity	Prevention Measure

Project Development	• Minimize soil disturbance to the extent practical, consistent with project objectives.
	• 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.
	• Prevent weed establishment by not driving through weed-infested areas.
	• Inspect and document weed establishment at access roads, cleaning sites, and all disturbed areas; control infestations to prevent spread within the project area.
	• For operations in waterbodies, when moving equipment or personnel through waterbodies on the way to the project site or before transporting watercraft and aquatic gear (i.e., hip boots, waders, and bait containers) to the authorized use area, permittee shall:
	  • Remove any aquatic plants, animals, and mud attached to watercraft and equipment,
	  • Drain water from boat, motor, bilge, live wells, and bait containers, and
	  • Spray all watercraft and equipment with high pressure water or dry for at least 5 days

Project Development *(cont.)*	• 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. • Use certified weed-free feed for horses and pack animals. • Develop monitoring and evaluation plans to record and identify treatment effectiveness and non-target effects

BLM Activity	Prevention Measure
Revegetation	• 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, re-establish vegetation on bare ground caused by project disturbance as soon as possible using either natural recovery or artificial techniques. Revegetate disturbed sites with native species if there is no reasonable expectation of natural regeneration. • Maintain stockpiled, uninfested material in a weed-free condition. • 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. • Where practical, stockpile weed-seed-free topsoil and replace it on disturbed areas (e.g., road embankments or landings). • 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 ROW, and other areas of disturbed soils.

Table A-2
Standard Operating Procedures for Applying Herbicides

Resource Element	Standard Operating Procedure
Guidance Documents	BLM Handbook H-9011-1 (*Chemical Pest Control*); and manuals 1112 (*Safety*), 9011 (*Chemical Pest Control*), 9012 (*Expenditure of Rangeland Insect Pest Control Funds*), 9015 (*Integrated Weed Management)*, 9220 (*Integrated Pest Management*), and 1740-2 (*Integrated Vegetation Management*)
General	**General standard operating procedures would be used for all projects; standard operating procedures for other resource elements would be used as appropriate.** **Follow product label for use and storage.** **Storage, Contingency, and Record Keeping** • Prepare spill contingency plan in advance of treatment. • Keep copy of Safety Data Sheets (SDSs) at work sites. SDSs 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. • Conduct mixing and loading operations in an area where an accidental spill would not contaminate an aquatic body. **Herbicide Treatment Planning** • Use only BLM-approved herbicides. Some state or local restrictions may apply. • Use only licensed herbicide applicators. • Pesticide use proposals are required for all herbicide treatments on BLM public lands. • Review, understand, and conform to all aspects of the herbicide label for each specific herbicide used. • Consult the herbicide label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide. • Select herbicides and adjuvants that are least damaging to environment while providing the desired results. • Where habitat is present, conduct pre-treatment surveys for sensitive habitat and special status species within or adjacent to proposed treatment areas. • Consider site characteristics, environmental conditions, application equipment, and herbicide characteristics in order to minimize damage to resources, such as non-target vegetation or water resources. • Minimize the size of application areas, when feasible. • Consider surrounding land use (including visual resources and socioeconomic conditions) before assigning aerial spraying as a treatment method and avoid aerial spraying near agricultural or densely populated areas. • Notify adjacent landowners prior to treatment. • Post treated areas and specify reentry or rest times, if appropriate. • Observe restricted entry intervals specified by the herbicide label. • Apply the least amount of herbicide needed to achieve the desired result. • Avoid accidental direct spray and spill conditions to minimize risks to resources. • Avoid aerial spraying during periods of adverse weather conditions (snow or rain imminent, fog, or air turbulence). • Consider the effects of wind, humidity, temperature inversions, and heavy rainfall on herbicide effectiveness and risks.

Resource Element	Standard Operating Procedure
General *(cont.)*	**Minimizing Herbicide Drift** • Only apply herbicides when winds are <10 mph (<6 mph for aerial applications) or if no serious rainfall event is imminent. Some state/local or label restrictions may apply. • Use drift control agents, drift reduction agents, and low volatile formulations to reduce drift hazards. • Use appropriate application equipment/method near water bodies if the potential for off-site drift exists. • Establish herbicide-free buffer zones to ensure that drift will not affect crops or nearby residents/landowners. • 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. • Consider surrounding land uses before aerial spraying. • 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. • Turn off applied treatments at the completion of spray runs and during turns to start another spray run.
Air Quality See Manual 7000 (*Soil, Water, and Air Management*)	• 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).
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. • 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%, or as specified in the label, where there is the possibility of runoff carrying the granules into non-target areas.
Water Resources See Manual 7000 (*Soil, Water, and Air Management*)	• 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. • 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. • Apply measures to prevent sedimentation into surface water from treatment. areas.

Resource Element	Standard Operating Procedure
Wetlands and Riparian Areas	• 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.
Vegetation See Handbook H-4410-1 (*National Range Handbook*), and manuals 5000 (*Forest Management*) and 9015 (*Integrated Weed Management*)	• Identify if the vegetation has acquired resistance to any active ingredient and select herbicides to reduce potential for resistance.

Pollinators	• 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.
	• 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.
	• Use the least hazardous formulation to pollinators available.
	  • Dust, wettable powders, and microencapsulated formulations are most hazardous to bees because they are similar in size to pollen and can stick to hairs on a bee's body.
	  • Granulated formulations are generally the least hazardous to bees.

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. • 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. • 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.
Wildlife See manuals 6500 (*Wildlife and Fisheries Management*) and 6780 (*Habitat Management Plans*)	• 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.
Threatened, Endangered, and Sensitive Species See Manual 6840 (*Special Status Species*)	• 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.

Resource Element	Standard Operating Procedure
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. • As directed by the herbicide label, remove livestock from treatment sites prior to herbicide application, where applicable. • Use herbicides of low toxicity to livestock, where feasible. • Notify permittees of the 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.
Wild Horses and Burros	• Apply SOPs as listed above for wildlife.
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*), 8270 (*Paleontological Resource Management*), and 1780 (*Tribal Relations*) 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 or36 CFR Part 800, including necessary consultations with State Historic Preservation Officers and interested tribes. • Follow BLM Handbook H-8270-1 (*General Procedural Guidance for Paleontological Resource Management*) to determine known Condition 1 and Condition 2 paleontological areas or collect information through inventory to establish Condition 1 and Condition 2 areas, determine resource types at risk from the proposed treatment, and develop appropriate measures to minimize or mitigate adverse impacts. • 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. • Follow guidance under Human Health and Safety in areas that may be visited by Native peoples after treatments. • Consult with Native American tribes and Alaska Native groups to locate any areas of vegetation that are of significance to the tribe and that might be affected by herbicide treatments.
Visual Resources See handbooks H-8410-1 (*Visual Resource Inventory*) and H-8431-1 (*Visual Resource Contrast Rating*), and manual 8400 (*Visual Resource Management*)	• 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.

Resource Element	Standard Operating Procedure
Wilderness and Other SpecialAreas 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*)	• Use the "minimum tool" to treat noxious and invasive vegetation, relying primarily on use of ground-based tools, including backpack pumps, hand sprayers, and pumps mounted on pack and saddle stock. • 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.
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. • Use herbicides during periods of low human use, where feasible.
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.
Human Health and Safety See Manual M-1703 (*Hazard Management and Resource Restoration*).	• 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. • Use protective equipment as directed by the herbicide label. • Provide public notification in newspapers or other media where the potential exists for public exposure. • Notify local emergency personnel of proposed treatments. • Notify local emergency response agencies of herbicides stored on-site. • Contain and clean up spills and request help as needed. • Secure containers during transport. • Dispose of unwanted herbicides, contaminated materials, and pesticide containers promptly and correctly. • Clean vehicles and equipment to prevent further contamination by chemicals. • Consult with Native American tribes and Alaska Native groups to locate any areas of vegetation that are of significance to the tribe or areas that are important for natural materials and food gathering and that might be affected by herbicide treatments.

Attachment C – Bureau of Land Management's Special Status Species Management Consultation Protocol as Presented in their 2015 Biological Assessment (Chapter 3) and Referenced in their 2023 Biological Assessment (Chapter 1.2).

SPECIAL STATUS SPECIES MANAGEMENT CONSULTATION PROTOCOL

There are typically two "tiers" of action when a federal agency adopts or approves a management plan or strategy that will be used to guide the development and implementation of future projects. The first tier of action involves adopting the broad management plan or strategy, and the second tier involves implementing site-specific actions. Both tiers require consultation under Section 7 of the ESA.

Consultation with the Services is required when any action authorized, funded, or carried out by a federal agency may affect any ESA listed species or critical habitat that has been designated for those species. This chapter identifies the steps that will be taken by the BLM at the national and local level to ensure that their actions requiring authorization or approval by the Services are consistent with guidance provided in the 2015 PEIS, this BA, ERAs (AECOM 2014a-c), *Endangered Species Consultation Handbook* (USFWS and NMFS 1998), BLM Manual 6840 (*Special Status Species Management*), BLM Handbook H-1601-1 (*Land Use Planning Handbook*), and consultation with the Services as part of the preparation of the 2015 PEIS and BA. In particular, the focus of this protocol is to ensure that any action authorized, funded, or carried out by the BLM will not jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species. If followed, these steps should ensure that the conservation needs of TEP species and other special status species are met.

This BA and the PEIS evaluate the potential for herbicide treatments using aminopyralid, fluroxypyr, and rimsulfuron to affect TEP species and designated and proposed critical habitat on BLM lands in the western U.S., including Alaska. These documents establish standards, guidelines, and design criteria to which future vegetation treatment actions must adhere. Programmatic consultation increases the efficiency of the Section 7 consultation process because much of the effects analysis is completed up-front and the effects of future actions are broadly accounted for. For example, much of the analysis of the effects of the use of herbicides on species of concern has been completed as part of this BA and risk assessments*;* this information can be incorporated into the assessment for local projects. Programmatic consultation also minimizes the potential "piecemeal" effects than can occur when evaluating individual projects out of context of the complete agency program.

Programmatic Level Consultation

As part of the first phase of consultation, the Services will develop a Biological Opinion that analyzes the potential landscape-level effects that may result from implementing the proposed action. For the 2015 PEIS and this BA, there is substantial temporal and spatial uncertainty about future actions, resulting in corresponding uncertainty regarding potential effects at the local level. As a result, a second phase is required that involves development of appropriate project-specific documentation that addresses the specific effects of individual projects proposed by BLM field offices.

An important feature of the first phase of consultation is the development of design criteria or standards that can be used to guide future projects. Design criteria are developed through a five-step process:

- Identify the conservation needs of each species.
- Identify the threats to each listed species.

- Identify the species conservation or management unit.
- Identify the species conservation goals within the context of the BLM's programs and authorities.
- Develop conservation/management strategies for implementing future activities (design criteria; conservation measures).

These five elements have been incorporated into this BA This BA helps to streamline the consultation process by completing a portion of the effects analysis early in the consultation process, and providing conservation measures that reduce potential adverse effects to listed species and which will be applied agency-wide.

Local-Level Consultation

Prior to implementation of specific vegetation treatment projects that utilize aminopyralid, fluroxypyr, and rimsulfuron, BLM field offices will consult with the Services at the local level on any action that may affect ESA- listed resources. This process will include a site-specific analysis of potential effects to TEP species from proposed vegetation treatment actions. At this level, the BLM will be able to determine more specifically which species might be impacted by the proposed treatments, the nature and extent of potential impacts, and what conservation measures are needed to reduce potential adverse effects to these species. Using the conservation measures in this BA as a starting point, the BLM will develop a final list of conservation measures during the local-level consultation. BLM field offices will tailor the national protective measures based on local conditions and the habitat needs of the particular TEP species that could be affected by the treatments. The conservation measures in this document are the minimum standards necessary for a project to fall under this programmatic BA. If the BLM wishes to modify a project and its conditions and/or parameters while still maintaining the safety of the identified TEP species, the BLM will coordinate with the Services at the local level through informal consultation. However, when a project deviates from/reduces the minimum protections identified in the programmatic BA and adequate protections cannot be afforded to the species in question, formal consultation must be initiated.

Tracking Local-Level Consultation

In order to track whether consultations are occurring at the local level, the BLM is expanding Section V of Pesticide Use Proposals ("Sensitive Aspects and Precautions") prepared by field offices to include more specific questions about coordination with USFWS and NMFS when an herbicide application for vegetation treatments will overlap a site with TEP species or designated critical habitat. The new questions are as follows:

1. Are there "Special Status Species" in the proposed treatment area?
    A. If "No" – no further questions.
    B. If "Yes" – Are any of the Special Status Species also federally threatened, endangered or proposed?
        a. If "No" – no further questions.
        b. If "Yes" – Did your Field Office coordinate with the local Fish and Wildlife Service office and/or NMFS?
            I. If "No" – explain.
            II. If "Yes" – was Section 7 consultation completed?
                1. If "No" – explain.

2a. If “Yes” – what extent of Section 7 consultation was completed?

“Formal Consultation”

“Informal Consultation”

“Technical Assistance”

(Circle one)

2b. Describe the outcome of the consultation.

The BLM enters information from Pesticide Use Proposals into the National Invasive Species Information Management System, where the BLM tracks all pesticide use data on BLM-administered lands and produces a yearly report of its pesticide use. This information will assist the BLM in tracking all its herbicide treatment projects that have resulted on additional site-specific consultation under section 7 of the ESA.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

Refer to NMFS No.: OPR-2023-03242

Mr. Sharif Branham
Assistant Director for Resources and Planning
Bureau of Land Management
1849 C Street NW
Washington, DC 20240

RE: Endangered Species Act Section 7 Formal Programmatic Consultation on the Bureau of Land Management Vegetation Treatment Program

Dear Mr. Branham:

Enclosed is the National Marine Fisheries Service's (NMFS's) programmatic conference and biological opinion on the effects to endangered, threatened and proposed species under NMFS's jurisdiction, and the critical habitat that has been designated for those species, by the Bureau of Land Management (BLM) vegetation treatment program in the western United States, including Alaska. We have prepared the programmatic conference and biological opinion pursuant to section 7(a)(2) of the Endangered Species Act, as amended (ESA; 16 U.S.C. 1536(a)(2)).

Is it NMFS's conference and biological opinion that BLM is able to insure that activities undertaken per its vegetation treatment program are not likely to jeopardize the continued existence of listed or proposed species under NMFS's jurisdiction. Similarly, it is our conference and biological opinion that BLM is able to insure these actions will not destroy or adversely modify the designated critical habitat of those listed species. We reached these conclusions upon reviewing the current status of the ESA-listed species, the environmental baseline within the action area, the effects of the action, and cumulative effects.

This concludes ESA section 7 consultation for ESA-listed and proposed species and designated critical habitat under NMFS's purview on this action by the BLM. Reinitiation of consultation is required and shall be requested by BLM where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in this consultation; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered in this consultation; or (4) a new species is listed or critical habitat designated that may be affected by the action (50 CFR §402.16).

If you have any questions regarding this conference and biological opinion, please contact Tanya Dobrzynski, Chief, ESA Interagency Cooperation Division at (240) 723-6321 or Tanya.Dobrzynski@noaa.gov.

Sincerely,

For Kimberly Damon-Randall
Director, Office of Protected Resources

EXECUTIVE SUMMARY

The proposed action assessed in this programmatic conference and biological opinion is BLM's vegetation treatment program in 17 western states including Alaska. Vegetation treatment activities within this program include the use of herbicide active ingredients (AIs), mechanical treatments, fire treatments, manual treatments, as well as biological control treatments.

This programmatic conference and biological opinion sets forth specific project design criteria which are based on proximity to ESA-listed species and habitats. These design criteria are organized into three tiers:

- Tier 1: Locations within NMFS's PULA. Within these areas only manual treatments are permitted.
- Tier 2: Locations within NMFS's species ranges, but outside the PULA. In these areas BLM will continue to follow the SOPs as well as the Conservation Measures identified in previous consultations.
- Tier 3: Locations outside NMFS's species ranges. BLM will continue to follow the SOPs identified in previous consultations.

The SOPs contain numerous measures and guidance documents that are applicable to herbicide treatment projects. The SOPs address the vegetation treatment process at several phases, allowing opportunity to evaluate risks and introduce protective measures at each step. The following describes the SOPs and is condensed from the 2015 BA and Appendix A:

Project Planning, Development and Revegetation

- Prevention measures are considered here to lessen risk of introducing or spreading invasive plants.

Herbicide Treatment Planning

- This stage evaluates the need for chemical treatments, and the potential impact on the environment.
- Operational plans are developed. A plan could include additional herbicide buffers near water bodies, project specifications, personnel responsibilities, emergency procedures, safety measures, and spill response.

Site Revegetation Procedures

- These are procedures applied depending on site for the benefit and promotion of the native plant community after herbicides eliminate invasive plants.

Procedures for Herbicide Application

- This step establishes the use of general and specific measures intended to protect threatened and endangered species and designated critical habitat.

It is NMFS's conference and biological opinion that BLM is able to insure that their vegetation management program is not likely to jeopardize the continued existence of listed or proposed species under NMFS's jurisdiction. Similarly, it is NMFS's biological and conference opinion that BLM is able to insure this proposed action will not likely destroy or adversely modify the designated critical habitat of those species.

BLM identified affected and potentially affected EFH designated by two fishery management councils and implemented by NMFS' West Coast and Alaska Regional Offices, which includes their salmon, groundfish, coastal pelagic species, crab, and scallop fishery management plans. This programmatic consultation includes the MSA EFH response and associated EFH conservation recommendations for the BLM to address. Those EFH conservation recommendations are intended to help the action agency avoid, minimize, mitigate, or otherwise offset adverse effects on managed species and their designated EFH.

The approach described in this conference and biological opinion will expedite BLM's consultations, and at the same time provide necessary, and targeted, protections to ESA-listed species and habitats. This programmatic consultation provides take coverage to all vegetation management activities that follow the project design criteria specified in section 3.3. In cases where BLM's vegetation management cannot adhere to the project design criteria BLM should further consult with NMFS on step-down consultations, as described in section 3.4.

1 INTRODUCTION

The Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 et seq.) establishes a national program for conserving threatened and endangered species of fish, wildlife, plants, and the habitat they depend on. Section 7(a)(2) of the ESA requires Federal agencies to insure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or adversely modify or destroy their designated critical habitat. Federal agencies must do so in consultation with NMFS for threatened or endangered species (ESA-listed), or designated critical habitat that may be affected by the action and that are under NMFS jurisdiction (50 C.F.R. §402.14(a)). If a Federal action agency determines that an action "may affect, but is not likely to adversely affect" endangered species, threatened species, or designated critical habitat and NMFS concurs with that determination for species under NMFS jurisdiction, consultation concludes informally (50 C.F.R. §402.14(b)).

Section 7(b)(3) of the ESA requires that at the conclusion of consultation, NMFS provides an opinion stating whether the Federal agency's action is likely to jeopardize ESA-listed species or destroy or adversely modify designated critical habitat. If NMFS determines that the action is likely to jeopardize listed species or destroy or adversely modify critical habitat, NMFS provides a reasonable and prudent alternative that allows the action to proceed in compliance with section 7(a)(2) of the ESA. If an incidental take is expected, section 7(b)(4) requires NMFS to provide an incidental take statement that specifies the impact of any incidental taking and includes reasonable and prudent measures to minimize such impacts and terms and conditions to implement the reasonable and prudent measures.

This programmatic conference and biological opinion considers the effects of the BLM's program for vegetation management on BLM-administered lands in 17 western states. Those states are: Alaska, Arizona, California, Colorado, Idaho, Montana, North Dakota, South Dakota, Nevada, New Mexico, Oklahoma, Texas, Oregon, Washington, Utah, Wyoming and Nebraska. Currently, the BLM uses 21 different AIs for vegetation management. BLM's 2007 consultation with NMFS assessed the use of 18 AIs, and the 2015 consultation assessed the inclusion of three additional AIs. As part of this proposed action, the BLM proposes to add seven additional herbicide AIs to its list of approved AIs for vegetation management. This consultation also considers the impact of all 28 AIs along with the other treatment approaches and sets forth the criteria and procedures for determining if and where any additional step-down ESA consultations are required. The BLM uses an integrated vegetation management approach, per its Integrated Vegetation Management Handbook (BLM 2008), which includes vegetation treatments via manual, mechanical, biological, and chemical treatments. This conference and biological opinion addresses each of these treatment approaches and the associated stressors.

This programmatic consultation, conference and biological opinion, and incidental take statement (ITS), were completed in accordance with section 7(a)(2) of the statute (16 U.S.C. 1536 (a)(2)), associated implementing regulations (50 C.F.R. §§401-16), and agency policy and guidance was conducted by NMFS Office of Protected Resources Endangered Species Act Interagency

Cooperation Division (hereafter referred to as "we"). This conference and biological opinion (opinion) and ITS were prepared by NMFS Office of Protected Resources Endangered Species Act Interagency Cooperation Division in accordance with section 7(b) of the ESA and implementing regulations at 50 C.F.R. §402.

Updates to the regulations governing interagency consultation (50 C.F.R. Part 402) were effective on May 6, 2024 (89 Fed. Reg. 24268). We are applying the updated regulations to this consultation. The 2024 regulatory changes, like those from 2019, were intended to improve and clarify the consultation process, and, with one exception from 2024 (offsetting reasonable and prudent measures), were not intended to result in changes to the Services' existing practice in implementing section 7(a)(2) of the Act. 89 Fed. Reg. at 24268; 84 Fed. Reg. at 45015. We have considered the prior rules and affirm that the substantive analysis and conclusions articulated in this biological opinion and incidental take statement would not have been any different under the 2019 regulations or pre-2019 regulations.

This document represents the NMFS opinion on the effects of these proposed actions on ESA-listed species and designated critical habitat. A complete record of this programmatic consultation is on file electronically at NMFS Office of Protected Resources in Silver Spring, Maryland.

1.1 Background

The President and Congress have directed the USDI and BLM, through implementation of the National Fire Plan and the Healthy Forests Restoration Act of 2003, to take more aggressive actions to reduce catastrophic wildfire risk on public lands. The BLM's *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan*; *Partners Against Weeds: An Action Plan for the Bureau of Land Management*; and *Pulling Together: National Strategy for Invasive Plant Management* identify broad objectives for management of vegetation on public lands, while treatment activities at the local level are guided by the goals, standards, and objectives of land use plans developed for each BLM field office.

Several laws provide for management and control of invasive vegetation. Two weed control laws, the Carlson-Foley Act of 1968 and the Plant Protection Act of 2000 (Public Law 106-224; includes management of undesirable plants on federal lands) authorize and direct the BLM to manage noxious weeds and to coordinate with other federal and state agencies to eradicate, suppress, control, prevent, or retard the spread of any noxious weeds on federal lands. The Federal Noxious Weed Act of 1974 established and funded an undesirable plant management program, implemented cooperative agreements with state agencies, and established integrated management systems to control undesirable plant species. The Noxious Weed Control Act of 2004 established a program to provide assistance through states to eligible weed management entities to control or eradicate harmful, non-native weeds on public and private lands. The Public Rangelands Improvement Act of 1978 requires the BLM to manage, maintain, and improve the condition of the public rangelands so that they become as productive as feasible. Executive Order 13112, as amended by Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species, directs federal agencies to

prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause.

The BLM uses an integrated vegetation management approach, per its Integrated Vegetation Management Handbook (BLM 2008), which includes vegetation treatments via manual, mechanical, biological, and chemical treatments. Figure 1 shows the BLM administered lands in 17 western states, including Alaska. According to BLM's Biological Assessment (BA) (BLM 2023a), noxious weeds and invasive plants pose an ever-increasing threat to the integrity of our public lands and the many ecological services they provide by outcompeting native vegetation and by acting as hazardous fuels that contribute to the frequency and severity of wildfires. This problem of increasing weeds and wildfires has been exacerbated by climate change, which has resulted in higher temperatures and increased droughts (Westerling et al. 2006, Jolly et al. 2015). More wildfires facilitate the spread of invasive annuals, which results in positive feedback between wildfire and grasses (D'Antonio and Vitousek 1992). Further, potential climatic shifts may enhance the spread of invasive annuals such as cheatgrass into resistant ecosystems (Bradley et al. 2016). Protection of healthy, intact ecosystems provides the associated native plants and animals a better opportunity to persist and adapt compared with ecosystems that have already been converted to invasive annual grasses. Accordingly, BLM has determined that effective management of noxious and invasive plants is essential in maintaining ecological health on lands administered by the BLM.

This proposed action follows the BLM's formal consultations in 2007 (NMFS 2007a) and 2015 (NMFS 2015a), which similarly examined the effects of vegetation treatments on ESA-listed species on BLM-administered lands in 17 western states, including Alaska. The 2007 consultation assessed the use of 18 AIs, and the 2016 consultation assessed the inclusion of three additional AIs. Both the 2007 and 2015 consultations examined the BLM's national program under which vegetation treatments would be conducted, and did not address individual vegetation treatments that would be conducted by BLM field offices. Such site-specific treatments were to be addressed individually in subsequent section 7 consultations conducted by the NMFS Regions. Records of Decisions for two different Programmatic Environmental Impact Statements (PEISs) in 2007 (BLM 2007b) and 2016 (BLM 2016) were also signed by BLM under the National Environmental Policy Act.

This programmatic consultation differs from the previous consultations in two ways: 1) it assesses the impact of all 28 AI.s; and 2) it addresses the site-specific actions. This programmatic consultation assesses the impacts of individual site-level actions as well as the aggregate impact of all anticipated site-level actions. PDC are set forth such that BLM can insure that individual and aggregate actions are not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat of such species. Site-level actions that do not employ all project design criteria are not covered by this programmatic consultation and may require separate ESA consultation. The specific criteria and processes for determining whether or not any particular action is covered are described in Chapter 3.

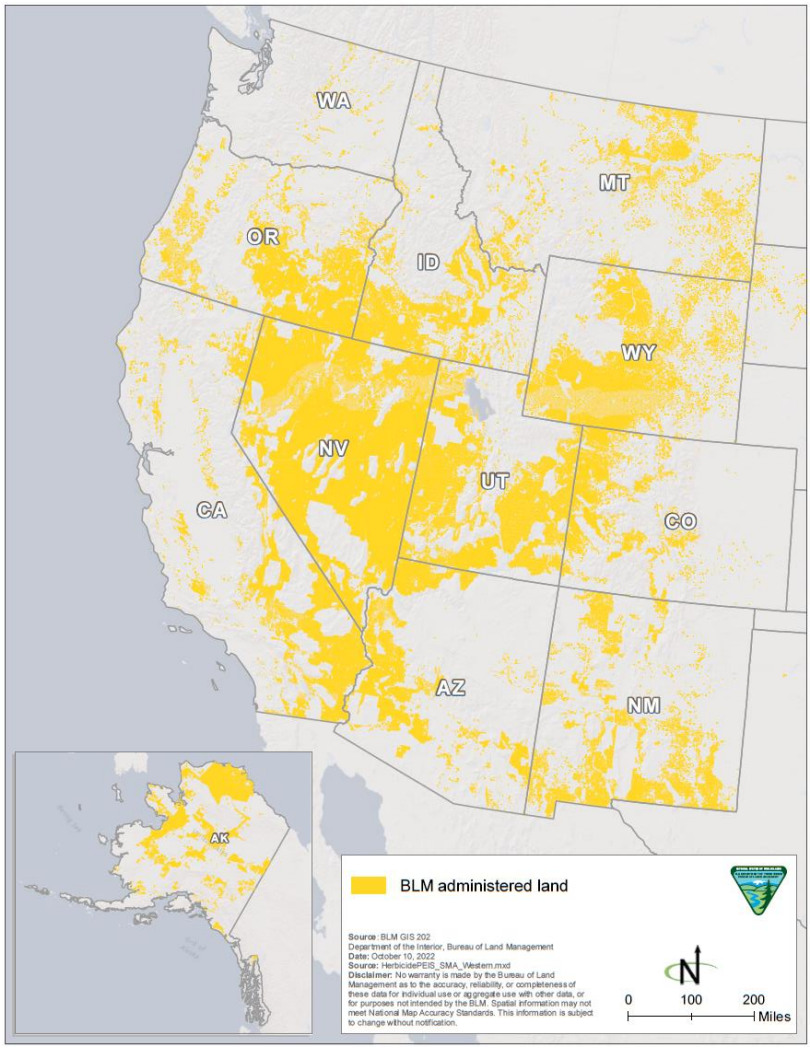

Figure 1. BLM administered land (in yellow) within the western United States. Map was taken from the BLM BA (BLM 2023a).

1.2 Consultation History

The following dates are important to the history of the current programmatic consultation:

- In August 2022, BLM contacted NMFS for technical assistance in their preparation of the BA in conjunction with the PEIS.
- In October 2023, BLM submitted a draft PEIS and draft BA to NMFS.
- On December 18, 2023, BLM transmitted to NMFS the final 2023 BA as well as a letter requesting initiation of consultation.
- In a meeting held January 26, 2024, NMFS and BLM discussed the proposed action and decided to complete a programmatic consultation to include all vegetation management actions.
- In an email exchange on March 19, 2024, NMFS and BLM decided that the geographic scope of the programmatic biological opinion would cover 17 western states, as opposed to all BLM lands as is described in the PEIS and BA.
- In a meeting held May 29, 2024, NMFS and BLM discussed the MSA-EFH assessment and conservation recommendations. NMFS conveyed the process and timelines associated with BLM's letter of response.