

**Montana Greater Sage-grouse and Declining Grassland Songbirds
Programmatic Candidate Conservation Agreement with Assurances**

for
Greater Sage-grouse
and
Baird's Sparrow, Chestnut-collared Longspur,
McCown's Longspur, and Sprague's Pipit

Between
The Nature Conservancy
and the
United States Fish and Wildlife Service

May 8, 2017

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EXECUTIVE SUMMARY

Degradation of sagebrush and grassland systems has led to declines in populations of greater sage-grouse (*Centrocercus urophasianus*; hereafter sage-grouse) and several grassland songbird species, including Baird's sparrow (*Ammodramus bairdii*), chestnut-collared longspur (*Calcarius ornatus*), McCown's longspur (*Rhynchophanes mccownii*), and Sprague's pipit (*Anthus spragueii*). Sage-grouse and these four declining grassland songbirds are landscape-scale species, relying on diverse habitat conditions to meet their life history requirements. Privately owned grazing lands in Montana provide large, intact habitats vital to populations of these species. In Montana, approximately 66 percent of sagebrush and 63 percent of grassland habitats are privately owned. Conservation efforts by private property owners are critical to maintaining these habitats.

A Candidate Conservation Agreement with Assurances (CCAA) is a voluntary agreement between the U.S. Fish and Wildlife Service (Service) and one or more non-Federal entities whereby non-Federal property owners agree to manage lands they enroll in the CCAA to remove or reduce the key threats to specific species at risk of being listed under the Endangered Species Act (ESA). In return for managing their lands to the benefit of the sage-grouse and declining grassland songbirds (Covered Species) as provided in the CCAA, these property owners receive assurances that no additional Conservation Measures or land, water, or resource use restrictions will be imposed on these lands under the ESA should any of the Covered Species be listed under the ESA. The Service provides these assurances through an Enhancement of Survival permit (Permit), issued pursuant to section 10(a)(1)(A) of the ESA, for a specific number of years. Under this Programmatic CCAA, if approved, the Permit would be issued to The Nature Conservancy (TNC) and would extend assurances to non-Federal property owners who enroll and agree to manage their properties in a manner consistent with this Programmatic CCAA.

The greatest threat to all of the Covered Species under this Programmatic CCAA is loss of habitat due to conversion, degradation, or fragmentation. The Service and TNC have developed this Programmatic CCAA for ranching management and agricultural activities that may affect the Covered Species. It is designed to conserve these species on non-Federal ranching and agricultural lands through implementation of compatible grazing practices, Conservation Measures to reduce or remove key threats on enrolled lands, and avoidance of habitat fragmentation. If any of the Covered Species become listed under the ESA, the Permit would authorize potential incidental take of the sage-grouse or any of the covered declining grassland songbirds as a result of implementation of Conservation Measures and ongoing ranching and agricultural activities covered by the CCAA.

Property owners can enroll their properties under this Programmatic CCAA through a Certificate of Inclusion (CI). To apply for enrollment and incidental take coverage under the Permit, a property owner submits an application to TNC for a CI for the property. Each application and CI will include appropriate Conservation Measures, which will be developed with assistance from TNC and the Service, to address all of the key threats to the Covered

Species that occur on the enrolled property. The CI application must be approved by TNC and the Service. If approved, TNC, the participating property owner, and the Service will sign the CI. Once the CI is signed, and as long as the property owner complies with the terms of the CI, the property owner is covered by the assurances and incidental take authorization provided in the Permit. Since participation is voluntary, the property owner can terminate the CI at any point; although in doing so the property owner gives up any assurances and incidental take coverage conveyed by the Permit through the CI.

This Programmatic CCAA was developed in cooperation with the Service's Partners for Fish and Wildlife Program (PFW), which provides technical guidance and financial assistance to private property owners who voluntarily agree to improve habitats on their properties for the benefit of priority species. In an effort to streamline the enrollment process, the Montana PFW is developing private landowner agreements (PLAs) that benefit the Covered Species by addressing the same threats and implementing equivalent Conservation Measures identified under this Programmatic CCAA. Interested property owners with approved and signed PLAs can be provided with CIs that comply with this Programmatic CCAA.

This Programmatic CCAA includes:

- A general description of responsibilities of the Service, involved Cooperators, enrolled property owners, and the area covered under the Programmatic CCAA;
- Background, status, general threats, and other conservation efforts for the sage-grouse and declining grassland songbirds covered under this CCAA;
- Specific key threats related to ranching management and agricultural activities and the Conservation Measures necessary to remove or reduce those threats in the covered area;
- Expected benefits of the Conservation Measures to the status of the species in relation to the standard set by the Service's Policy for CCAAs, 81 Fed. Reg. 95164 (December 27, 2016); and
- Level of take likely to occur from the covered activities on the enrolled lands, assurances, monitoring, and annual reporting.

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DEFINITIONS

Assurances - The guarantee that the Service provides to non-Federal property owners enrolled in a CCAA that it will not require additional conservation measures nor impose additional land, water, or resource use restrictions beyond those voluntarily agreed to and described in the CCAA and Certificate of Inclusion (CI), should the Covered Species become listed under the ESA in the future. These assurances are contingent upon the property owner's compliance with the terms of their CI and this CCAA and are authorized through the issuance of an ESA section 10(a)(1)(A) Permit.

Avoid- To refrain from conducting an action and/or to refrain from incurring related impacts of an action. It does not infer that a specific action will never occur. Impacts from actions that cannot be avoided should be minimized to the maximum extent possible, per the definition of minimize, below.

Candidate Conservation Agreement with Assurances (CCAA) – A voluntary conservation agreement between a non-Federal landowner and the Service, using Conservation Measures to benefit the designated wildlife species and the landowner. Non-federal landowners will receive assurances from the Service that additional Conservation Measures will not be required and additional restrictions will not be imposed should the species become listed in the future.

Candidate Species – Plants and animals for which the Service has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

CCAA Standard –The Service must determine that the benefits of the Conservation Measures implemented by a property owner under a CCAA address the key current and anticipated future threats that are under the property owner's control and will result in a net conservation benefit to and improve the status of the Covered Species.

Certificate of Inclusion (CI) - A certificate documenting the participating property owner's voluntary agreement to enroll specified property in this Programmatic CCAA. Through a CI, the enrolled property owner voluntarily commits to implement specific conservation actions and to otherwise comply with the terms and conditions of the CI, CCAA, and the Permit. The CI also provides the Service's regulatory assurances and take authorization under the Permit for the enrolled property.

Community phase – A unique assemblage of plants and associated dynamic soil property levels that can occur within a state (Caudle et al. 2013).

Conservation Measure – Action that a property owner voluntarily agrees to undertake when entering into a CCAA that, by addressing the key threats that are occurring or have the

potential to occur on the enrolled property, will result in an improvement or expansion of the species' habitat with the potential for an increase in the species' population numbers.

Cooperator- An agency, organization, or other party that contributes to the development and implementation of the Programmatic CCAA and/or CIs. This includes the Service, the Permit holder (TNC), and any property owner issued a CI under the Permit.

Covered Species – Those species that are the subject of a CCAA and associated Enhancement of survival permit.

Disturbance – A change in the existing condition of an ecological system through a discrete event, either natural or human-induced.

Drought – A prolonged chronic shortage of water or period with below normal precipitation. During drought, the soil water content is reduced to the extent plants suffer from a lack of water. Drought is frequently associated with excessively high temperatures and winds during spring, summer, and fall (NRCS Range and Pasture Handbook 2003).

Ecological site – A distinctive kind of land based on recurring soil, landform, geological, and climate characteristics that differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation and in its ability to respond similarly to management actions and natural disturbances (Caudle et al. 2013).

Endangered Species Act (ESA) – A law passed in 1973 designed to protect and recover imperiled species and the ecosystems upon which they depend. Under the ESA, a species may be listed as either endangered or threatened. Endangered means a species in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future.

Enhancement of survival permit – A permit issued under section 10(a)(1)(A) of the ESA that, as related to this policy, authorizes the permittee to incidentally take any Covered Species under a CCAA. The permit becomes effective upon listing of any of the Covered Species.

Grassbank – The practice where a private individual, nonprofit, or government entity provides forage at a discounted rate to ranchers in need of alternative forage in exchange for conservation benefits on neighboring lands.

Grassland - Land on which the vegetation is dominated by grasses, grass like plants, and/or forbs. Lands not presently grassland that were originally or could become grassland through natural succession may be classified as potential natural grassland (Society for Range Management 1998).

Grazing management plan - A strategy outlining livestock management on a property enrolled under this Programmatic CCAA.

Harass – An intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.

Harm – An act that actually kills or injures wildlife. It includes significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

Incidental take – The take of a species listed under the ESA that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. An Enhancement of Survival permit issued under a CCAA can authorize incidental take from route landowner activities covered by the CCAA or take associated with conservation activities implemented for the Covered Species.

Lek – A traditional courtship display area attended by male sage-grouse in or adjacent to sagebrush.

Listing - Used in the context of this document, listing refers to the Service's determination of whether a species should be added to the list of species designated as threatened or endangered under the ESA. Under the ESA, the Service may determine a species is endangered or threatened based only on consideration of one or more of the following five factors (consideration of economics, or other factors not listed here, is not permissible under the ESA):

- The present or threatened destruction, modification, or curtailment of the species' habitat or range;
- Overutilization for commercial, recreational, scientific, or educational purposes;
- Disease or predation;
- The inadequacy of existing regulatory mechanisms; or
- Other natural or man-made factors affecting its continued existence.

Minimize- To limit the degree or magnitude of an action and its implementation to the maximum extent possible.

Net conservation benefit – The cumulative benefits of the CCAA's specific Conservation Measures designed to improve the status of a Covered Species by removing or minimizing threats so that populations are stabilized, the number of individuals is increased, or habitat is improved.

Permit - As used in this Programmatic CCAA, Permit means the Enhancement of survival permit (Permit) issued by the Service to The Nature Conservancy (Permit holder) if and when

this Programmatic CCAA is finalized. Through this Permit, issued under Section 10(a)(1)(A) of the ESA, the Service provides the assurances and incidental take authorization described in this Programmatic CCAA and in the approved CIs to property owners who enroll. The Permit becomes effective if the species covered by this CCAA are listed under the ESA.

Potential habitat – Habitat containing the characteristics necessary to support any of the Covered Species.

Predator – Any animal that preys upon the Covered Species, including avian species such as raptors and corvids (e.g., ravens, crows; *Corvus* spp.).

Private landowner agreement (PLA) – A written document between the Service and a private landowner detailing the requirements of a Partners for Fish and Wildlife Program project or habitat improvement project.

Property owner – A person with a fee simple, leasehold, or other property interest (including owners of water rights or other natural resources), or any other entity that may have a property interest, sufficient to carry out the proposed management activities, subject to applicable State law, on non-Federal land.

Raptor – A bird of prey such as an eagle, hawk, or owl.

Reference state – Ecological state representing the ecological potential and natural or historical range of variability of the ecological site.

Rest - To leave an area of grazing land ungrazed or unharvested for a specific time, such as a year, a growing season or a specified period required within a particular management practice.

Riparian – Referring or relating to areas adjacent to or influenced by flowing water associated with rivers and streams.

Riparian vegetation – Plant communities dependent upon the presence of water near the ground surface (Society for Range Management 1998).

Rotational grazing – A grazing system in which livestock are moved from one grazing unit or pasture to another on a scheduled basis.

Sagebrush steppe- A semi-arid grassland characterized by a dominance of sagebrush, typically big sagebrush (*Artemisia tridentata*), and perennial grasses.

Site-specific land management plan - A written record of overall management decisions and conservation practices property owners plan to use as part of their CI. Site-specific land

management plans detail, as needed, how the current practices, conservation measures, and monitoring agreed to in a CI will be implemented on the enrolled property.

State – A suite of community phases and their inherent soil properties that interact with the abiotic and biotic environment to produce persistent functional and structural attributes associated with a characteristic range of variability.

State and transition model – A method to organize and communicate complex information about the relationships between vegetation, soil, animals, hydrology, disturbances, and management actions on an ecological site.

Stocking rate – The relationship between the number of animals and the grazing management unit utilized over a specified time period. May be expressed as animal units per unit of land area.

Suitable habitat – Areas with the capacity to provide breeding habitat for Baird’s sparrow, chestnut-collared longspur, McCown’s longspur, and Sprague’s pipit, or breeding, nesting, brood-rearing, and/or wintering habitats for sage-grouse. Suitability is determined by existing or historical records and/or habitat assessments conducted by professional biologists/ecologists.

Take – To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species.

LIST OF ACRONYMS AND ABBREVIATIONS

BBS	Breeding Bird Survey
BLM	Bureau of Land Management
CCAA	Candidate Conservation Agreement with Assurances
CCCM	Changed Circumstances Conservation Measure
CI	Certificate of Inclusion associated with the CCAA
CRP	Conservation Reserve Program
EO	Executive Order
ESA	Endangered Species Act, 16 USC 1531 <i>et seq.</i>
ESD	Ecological Site Description
MFWP	Montana Fish, Wildlife, and Parks
MLRA	Major Land Resource Area
MSGOT	Montana Sage-grouse Oversight Team
MTNHP	Montana Natural Heritage Program
MZ	Management Zone
NEPA	National Environmental Policy Act, 42 USC 4321 <i>et seq.</i>
NRCS	Natural Resources Conservation Service
Permit	Enhancement of Survival permit under Section 10(a)(1)(A) of the ESA
PLA	Private Landowner Agreement
PFW	Partners for Fish and Wildlife Program
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
Service	U.S. Fish and Wildlife Service
SFA	Sagebrush Focal Area
SGI	Sage Grouse Initiative
STM	State and Transition Model
TNC	The Nature Conservancy
USFWS	U.S. Fish and Wildlife Service
WAFWA	Western Association of Fish and Wildlife Agencies
WNV	West Nile virus

1. INTRODUCTION

1.1. Purpose of the Montana Greater Sage-grouse and Declining Grassland Songbirds Programmatic CCAA

Comprehensive, cooperative approaches to conservation are an important component of addressing threats to the greater sage-grouse (sage-grouse) and Sprague's pipit, McCown's longspur, chestnut-collared longspur, and Baird's sparrow (declining grassland songbirds). With significant participation, this Programmatic Candidate Conservation Agreement with Assurances (CCAA) will improve the status of the sage-grouse and declining grassland songbirds in Montana, contributing to a reduction in the likelihood that these species may be listed under the Endangered Species Act (ESA) due to impacts associated with ranching and agricultural activities. To achieve this level of participation, this Programmatic CCAA is designed to encourage non-Federal property owners to voluntarily promote conservation of the sage-grouse and/or declining grassland songbirds and their habitats on their properties. In return for participating in this Programmatic CCAA, the Service provides enrolled property owners with assurances that, as long as the property owner is properly implementing the Certificate of Inclusion (CI) issued under this Programmatic CCAA, the Service will not require additional Conservation Measures or impose additional land, water, or resource use restrictions on the enrolled property should any of the Covered Species under this CCAA become listed under the ESA. The Service provides these assurances through an Enhancement of Survival permit (Permit), issued pursuant to section 10(a)(1)(A) of the ESA. Through the Permit issued to The Nature Conservancy (TNC) pursuant to this Programmatic CCAA, the Service also provides the enrollee with authorization for incidental take of sage-grouse and declining grassland songbirds (Covered Species) due to implementation of the CCAA's Conservation Measures and covered ranching and agricultural activities on the enrolled property.

This Programmatic CCAA also provides a streamlined process for enrollment. It describes all of the known key threats and impacts to the Covered Species associated with ranch management and agricultural activities in Montana. It also includes a comprehensive menu of specific Conservation Measures to reduce or eliminate each of those threats and restore, enhance, or preserve sage-grouse and/or declining grassland songbird habitats. Therefore, interested property owners, with assistance from TNC and the Service, can select the appropriate measures from this menu that address all of the key threats on their properties and incorporate these measures into their CIs, instead of developing a separate CCAA for each property.

1.2. Authority

The purposes of the ESA are "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved" and "to provide a program for the conservation of such endangered species and threatened species..." (ESA section 2(b)). "Conserve" is defined in section 3(3) of the ESA as "to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened

species to the point at which the measures provided pursuant to this Act are no longer necessary.”

Sections 2, 7, and 10 of the ESA allow the Service to enter into this CCAA. Section 2 states that encouraging States and other interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation’s heritage in fish, wildlife, and plants. Section 7 requires the Service to review programs it administers and use such programs in furtherance of the purposes of the ESA. Lastly, section 10(a)(1)(A) authorizes the issuance of permits to “enhance the survival” of a listed species. Enhancement means that the permitted activities benefit the species in the wild.

By providing this Programmatic CCAA and approving CIs, the Service is using its Candidate Conservation Program to further conservation of the sage-grouse and declining grassland songbirds in Montana. Consistent with the Service’s “Candidate Conservation Agreement with Assurances Final Policy” (81 FR 95164, December 27, 2016), the conservation goal of this Programmatic CCAA is to maintain and enhance sage-grouse and declining grassland songbird species habitats and populations on non-Federal lands within the range of these species in Montana. Property owners will help meet this conservation goal by voluntarily implementing Conservation Measures to address the key threats to the Covered Species and will receive regulatory certainty from the Service concerning any further commitments or land-use restrictions that might otherwise apply, should any of the Covered Species become listed under the ESA.

1.3. CCAA Standard

To enter into a CCAA, the Service must determine that the cumulative benefits of the Conservation Measures to be implemented by the property owners under the CCAA address the key current and anticipated future threats that are under the property owner’s control and are reasonably expected to result in a net conservation benefit to the Covered Species. To meet this standard, the conservation actions in a CCAA must reduce or eliminate all of the key threats, over which the enrolled property owner has control, on the enrolled property or covered area.

Even if this Programmatic CCAA and associated CIs meet the CCAA standard and are fully implemented, the Service cannot guarantee that listing of the sage-grouse or any of the declining grassland songbirds will never be necessary in all or parts of their ranges. Under the ESA, the Service must examine several factors affecting these species, many of which involve multiple threats to the species and its habitats, to determine whether listing is appropriate. Because CCAAs focus on addressing the key threats under the landowner’s control within a specific covered area or on a particular property, but not necessarily all such factors across the range of a species, a single CCAA may not preclude the need to list a species. The Service’s process for approving a CCAA is independent of its regulatory process for determining whether to list a species under the ESA.

1.4. Permit Issuance Criteria

The Service must document in a Set of Findings that a draft CCAA meets the CCAA standard and all other policy requirements and Permit issuance criteria before it can approve a CCAA and issue the associated Section 10(a)(1)(A) permit. If an application fails to meet any of the issuance criteria, then the Service must deny Permit issuance. However, the potential for Permit denial under this Programmatic CCAA is minimized because the Service and TNC have collaborated in the preparation of this Programmatic CCAA.

The Service must consider the following criteria to determine whether to issue a Permit for a Programmatic CCAA:

1. *The take will be incidental to an otherwise lawful activity and will be in accordance with the terms of the Agreement.*

The Service must determine that any take of the Covered Species authorized under the Permit will be incidental to otherwise lawful activities, covered under the CCAA, and not the purpose of such activities.

2. *The CCAA complies with the requirements of the CCAA policy.*

The Service must determine that the CCAA and application meet the requirements contained in the implementing regulations, that the Conservation Measures and expected benefits to the Covered Species will meet the CCAA standard, and that the CCAA complies with all other requirements of the CCAA policy (81 FR 95164, December 27, 2016).

3. *The probable direct and indirect effects of any authorized take will not appreciably reduce the likelihood of survival and recovery in the wild of any species.*

Through a biological or conference opinion under section 7 of the ESA, the Service must conclude that the direct and indirect effects of the incidental take authorized by the Permit and implementation of the CCAA would not appreciably reduce the likelihood of survival and recovery in the wild of the Covered Species or any other listed species or result in adverse modification of critical habitat.

4. *Implementation of the terms of the CCAA is consistent with applicable Federal, State, and Tribal laws and regulations.*

The Service must determine that the CCAA is consistent with all applicable Federal, State, and Tribal laws and regulations. Such Federal laws include, but are not limited to, the ESA, National Environmental Policy Act, and National Historic Preservation Act. The applicant is responsible for obtaining any other authorizations necessary under State, Federal, or local laws or regulations to carry out the activities covered in the CCAA. The validity of the

Section 10(a)(1)(A) permit will be conditioned upon the compliance of the permit holder with all applicable State, local, or other Federal law.

- 5. Implementation of the terms of the CCAA will not be in conflict with any ongoing conservation programs for species covered by the Permit.*

The Service must determine that implementation of the CCAA and issuance of the associated Section 10(a)(1)(A) permit will not be in conflict with any ongoing conservation programs for the Covered Species. This determination would be based on a review of existing and developing conservation programs by other Service programs, the States, other Federal agencies, Tribes, and local entities.

- 6. The applicant has shown capability for and commitment to implementing all of the terms of the CCAA.*

The Service must determine that the applicant is capable of carrying out the CCAA as specified. Signing the CCAA indicates the applicant's commitment to implement the agreed-upon requirements and Conservation Measures. Compliance with the CCAA is a condition of the Permit, and a failure to perform obligations under the CCAA may be grounds for suspension or revocation of the Permit.

1.5. Assurances Provided to Enrollees

In return for committing to implement a CCAA to improve the status of sage-grouse and/or the four declining grassland songbird species covered under the CCAA, the Service provides enrolled property owners with assurances of regulatory certainty. More specifically, upon the Service's approval and execution of a CI under this Programmatic CCAA, the Service will provide the enrolled property owner with assurances that no additional Conservation Measures or additional land, water, or resource use restrictions, beyond those voluntarily agreed to and described in the CCAA and/or CI and associated site-specific land management plan, will be imposed on the enrolled property should any of the Covered Species become listed as a threatened or endangered species, provided that the CI and associated site-specific land management plan are being implemented as agreed. These assurances, set forth in the Permit that will be issued to TNC, will be authorized with approval of each CI. This is consistent with the Candidate Conservation Agreement with Assurances Final Policy (64 FR 32726) and the regulations implementing the policy (69 FR 24084), including the most recent CCAA policy and regulation updates (81 FR 95164, 81 FR 95053).

1.6. Parties to this CCAA

The Cooperators to this Programmatic CCAA are the Service, The Nature Conservancy, and the property owners with approved CIs under this CCAA. The responsibilities of each Cooperator are described in Section 6.3 of this CCAA. Additional technical assistance and review was

provided by the Natural Resources Conservation Service (NRCS) and Montana Fish, Wildlife, and Parks (MFWP).

1.7. How Property Owners Enroll under the Programmatic CCAA

As described in more detail in Section 6.1 of this CCAA, each property owner volunteering to enroll under this Programmatic CCAA must prepare and submit a draft CI (Appendix A) for approval. The CI will commit the property owner to implement all relevant provisions and conditions in the Programmatic CCAA, as well as all appropriate Conservation Measures selected to address all of the key threats identified on the specific property enrolled. TNC will work with each property owner to identify existing conditions on the property and to select the Conservation Measures from the menu in this Programmatic CCAA that will address all of the key threats identified on the property. Appropriate Conservation Measures may vary depending on many site-specific factors such as available habitats, local climate, existing infrastructure, and water resources. Participants are not required to enroll their entire property, rather just those portions of the property where Conservation Measures would be implemented and covered activities would occur. However, the assurances and incidental take authorization provided under this Programmatic CCAA will only apply to those properties or portions of property enrolled in this CCAA through an approved CI.

In instances where a property owner has an approved and signed PLA with the Service's PFW and is interested in the assurances and incidental take authorization provided under this Programmatic CCAA, the Service and TNC will use the information in the PLA to develop the CI.

After selecting appropriate Conservation Measures for the property with assistance from the Cooperators, the property owner will submit a draft CI to TNC, along with a site-specific land management plan, if possible. If more time is necessary to complete a site-specific land management plan, see provisions in #9 in Section 6.1 of this CCAA. TNC will coordinate with the Service for mutual review and approval of each draft CI.

Upon approval by TNC and the Service, the CI will be signed by all three parties. By signing the CI, the property owner agrees to implement the Conservation Measures identified therein, as well as the relevant provisions and requirements in the Programmatic CCAA. The property owner also agrees to allow, with prior notification, the Cooperators, including TNC, access to the enrolled property to monitor implementation of the CI.

2. DESCRIPTION OF COVERED AREA

Background and status of the sage-grouse, Baird's sparrow, chestnut-collared longspur, McCown's longspur, and Sprague's pipit are provided in Appendix B.

2.1. Area Covered by Programmatic CCAA

This Programmatic CCAA covers approximately 11,687,434 ha (28,880,279 ac) of privately owned lands within potential habitats for the Covered Species. Approximately 8,705,704 ha (21,512,263 ac) of privately owned lands occur within potential sage-grouse habitat in Montana (MFWP 2016a) and approximately 5,716,529 ha (14,125,850 ac) of privately owned lands occur within potential habitat for the covered declining grassland songbirds. Acreage estimates for grasslands were derived from the Montana Land Cover Framework (MTNHP 2013) and breeding distribution information was provided by the Montana Natural Heritage Program (2015). Sagebrush and grassland complexes provide habitats for the Covered Species across much of Montana east of the Continental Divide, and mapped sage-grouse habitat also includes substantial amounts of potential grassland songbird habitats (Figure 1). The distribution and species composition of sagebrush is dependent upon elevation, precipitation, and soil productivity (Miller et al. 2011). In the sagebrush/grasslands of eastern Montana, rhizomatous wheatgrasses, primarily western wheatgrass, dominate the herbaceous layer. Habitats north of the Milk River are primarily grasslands with areas of plains silver sagebrush (*A. cana* ssp. *cana*) occurring along overflow areas and in scattered patches on upland, loamy sites. South of the Milk River, grasslands occur in complexes with relatively dense stands of Wyoming big sagebrush (*A. t.* ssp. *wyomingensis*). The intermontane basins and valleys of southwest Montana support perennial bunchgrasses and a higher canopy cover and diversity of sagebrush species, including mountain big sagebrush (*A. t.* ssp. *vaseyana*), basin big sagebrush (*A. t.* ssp. *tridentata*), Wyoming big sagebrush, low sagebrush (*A. arbuscula*), threetip sagebrush (*A. tripartita*), mountain silver sagebrush (*A. t.* ssp. *viscidula*), and black sagebrush (*A. nova*; Cooper et al. 1999).

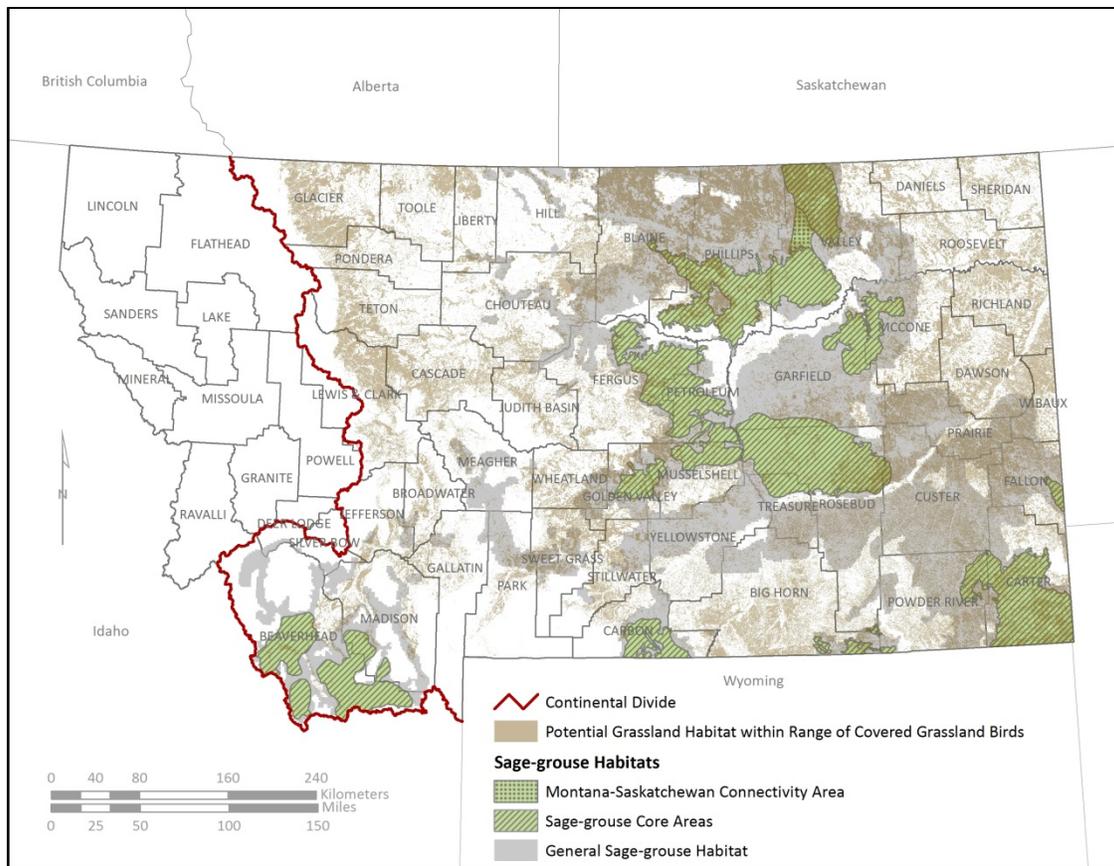


Figure 1. Potential sagebrush and grassland habitats for the Covered Species under the Montana Programmatic CCAA.

2.2. Conditions of Sage-grouse and Declining Grassland Songbird Habitats and Populations in the Covered Area

The total amount of potential sage-grouse habitat in Montana is estimated to be 13,244,462 ha (32,727,779 ac; MFWP 2016a), 66 percent of which is in private ownership (Figure 2). Montana has 14 sage-grouse core areas representing the highest sage-grouse densities based on (1) male lek maximum counts and (2) sage-grouse lek complexes and associated habitat important to sage-grouse distribution (MFWP 2014). Current sage-grouse core areas capture approximately 76 percent of displaying males (Figure 3).

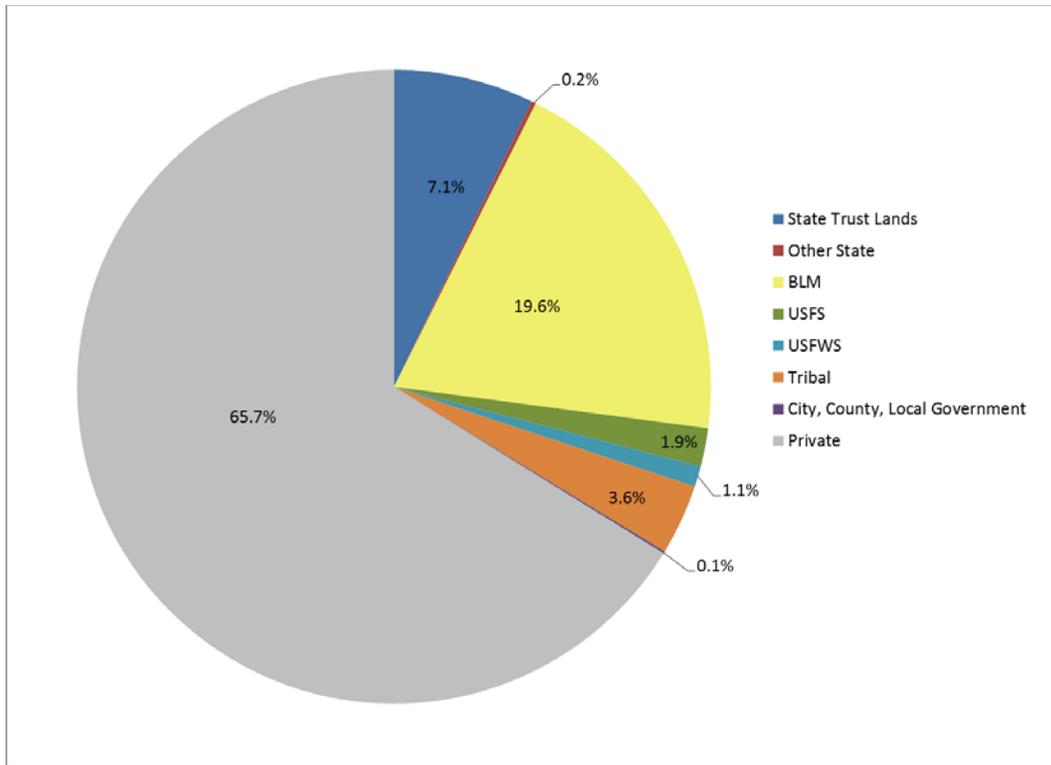


Figure 2. Proportion of greater sage-grouse habitat by ownership in Montana.

DRAFT

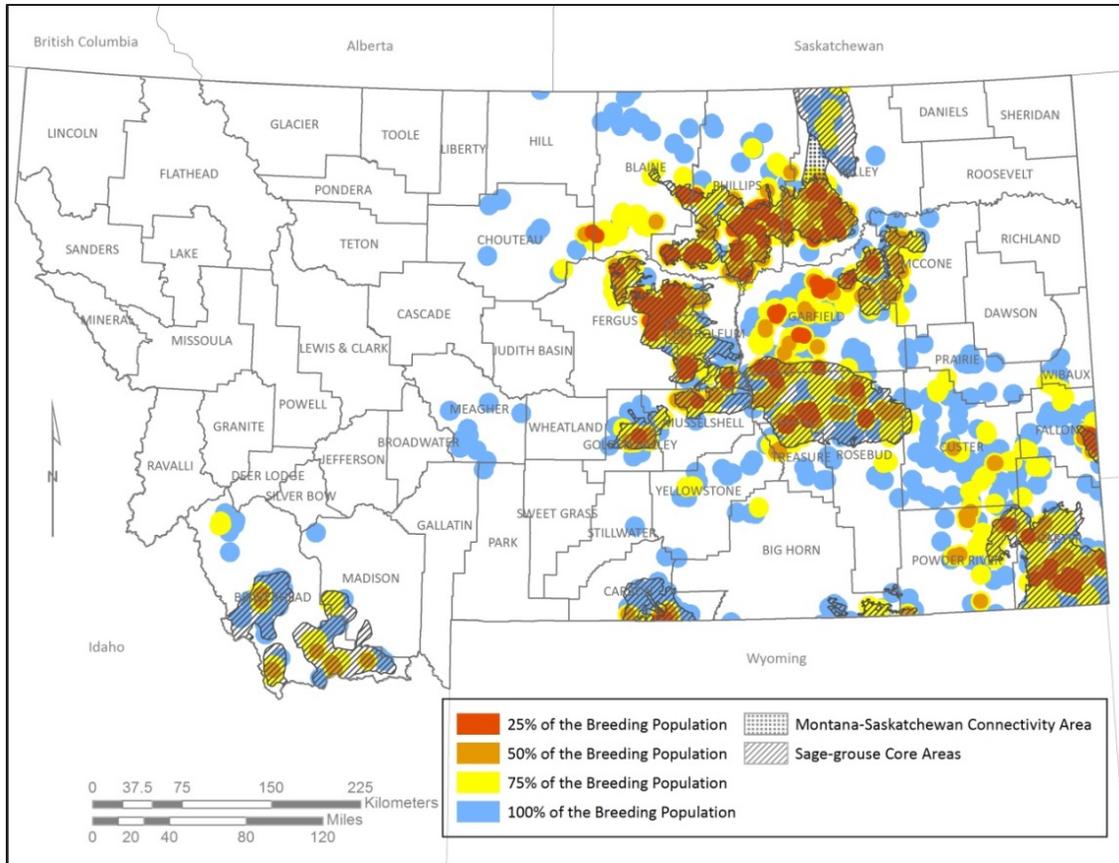


Figure 3. Greater sage-grouse breeding population thresholds displaying areas capturing 25%, 50%, 75%, and 100% of the breeding population (adapted from Doherty et al. 2010a).

The amount of potential habitat within the breeding range of the four covered declining grassland songbirds in Montana is estimated to be 9,077,246 ha (22,430,364 ac). Approximately 63 percent of these grasslands are privately owned. Core areas of high bird abundance have been identified for the four covered songbird species, representing areas where 50% of the total breeding population of each species is predicted to occur (Figure 4; Lipsey et al. 2015, Sather unpublished data). Each of the covered songbird species has population core areas concentrated in portions of northern Valley and Phillips counties in north-central Montana.

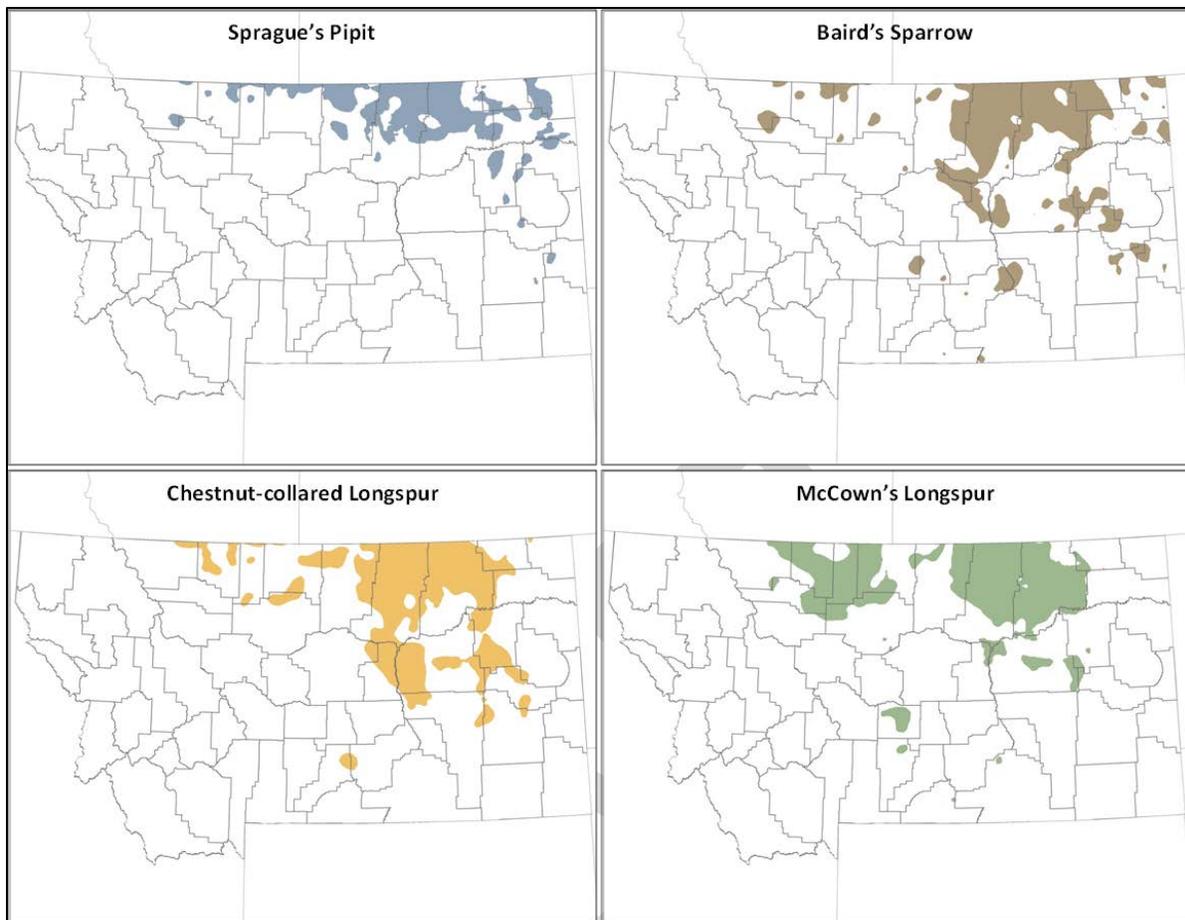


Figure 4. Population core areas for Sprague's pipit, Baird's sparrow, chestnut-collared longspur, and McCown's longspur in Montana. Core areas represent areas where 50% of the total breeding population of each of the four songbird species is predicted to occur (Lipsey et al. 2015; Sather unpublished data).

Approximately 1,923,845 million ha (4,753,925 million ac) of potential grassland habitat in Montana is on public lands, of which 53 percent are managed by the BLM.

Much of the remaining privately owned sagebrush and grassland vegetation communities in Montana are relatively intact, owing to marginal soils that have historically discouraged conversion of these areas to cropland (Cooper et al. 2001). These privately owned rangelands are managed primarily for livestock production. Maintaining these intact rangelands is critical to supporting populations of sage-grouse and declining grassland songbirds in Montana.

Greater Sage-grouse

Montana has the second highest number of sage-grouse, supporting approximately 18 percent of the rangewide population, and Montana's sage-grouse populations play an important role in connectivity among populations in Canada, the Dakotas, Idaho, and Wyoming. Suitable sagebrush habitats remain extensive in Montana; however, the distribution of sage-grouse has

contracted from historic estimates (Figure 5; MFWP 2000). Habitat loss and fragmentation due to agricultural conversion of sagebrush habitats, infrastructure, and nonrenewable energy development have contributed to declines in sage-grouse populations across Montana, although recent Federal and State plans have reduced the potential of these threats to impact sage-grouse populations (80 FR 59858, October 2, 2015). The sage-grouse Conservation Objectives Team (COT) Report (USFWS 2013) identified seven populations in Montana based on Garton et al. 2011: Northern Montana, Yellowstone Watershed, Southwest Montana, the Belt Mountains, the Wyoming Basin, Powder River Basin, and the Dakotas (Figure 6). Montana’s largest sage-grouse populations are Northern Montana, Yellowstone Watershed, and Southwest Montana. The Montana portions of the Powder River, Wyoming Basin, and the Dakotas population provide important connectivity areas with Wyoming and the Dakotas. The Belt Mountains population is relatively isolated and has experienced substantial habitat loss and fragmentation.

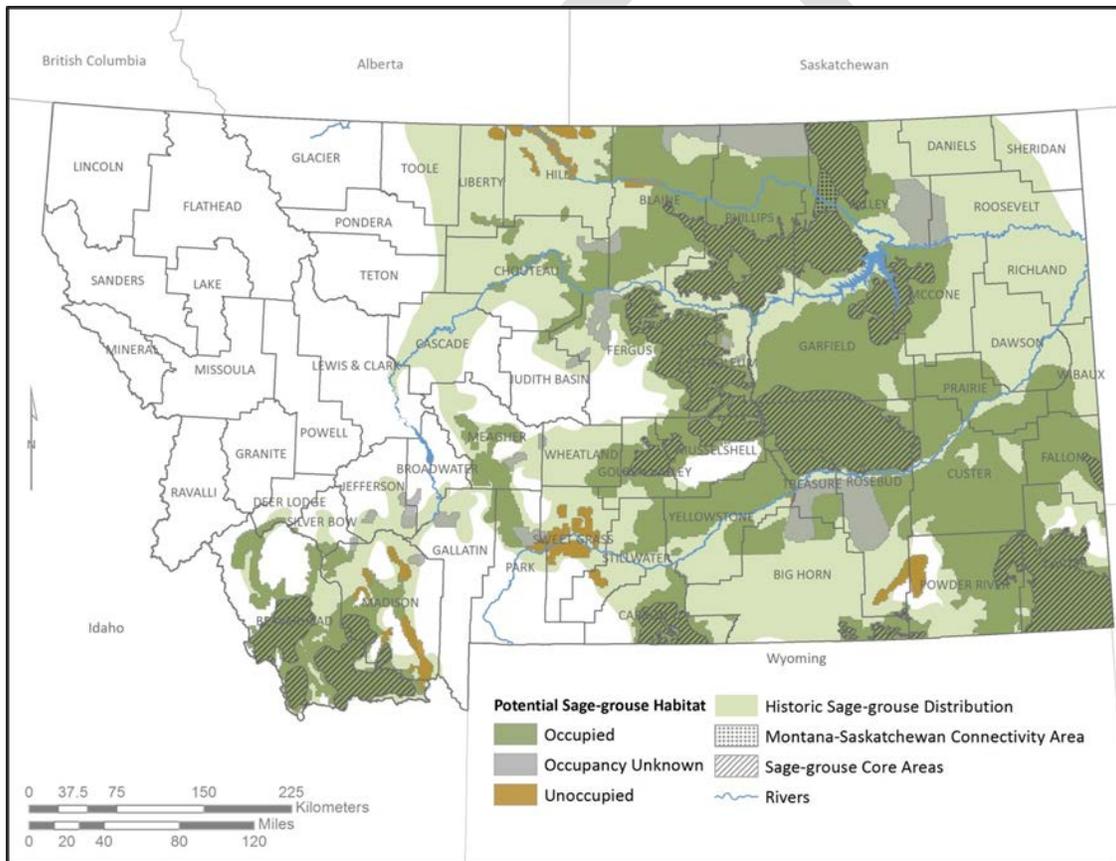


Figure 5. Estimated historic and potential current greater sage-grouse distribution in Montana (data source: MFWP 2000).

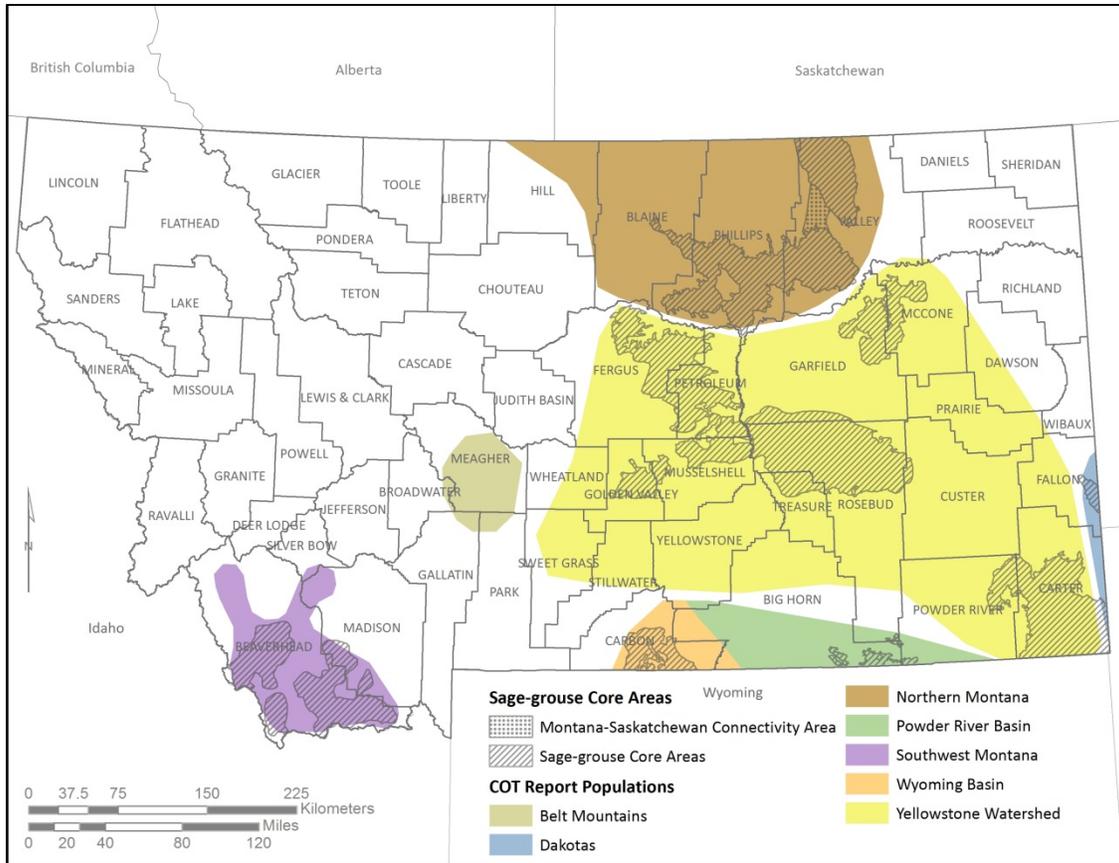


Figure 6. Greater sage-grouse populations identified in the Conservation Objectives Team (COT) Report (USFWS 2013) in Montana.

After a period of decline from 2008–2014, the number of males per lek increased in both 2015 and 2016 (MFWP; Figure 7). This increase in lek counts is consistent with patterns in sage-grouse population fluctuations and is likely due, in part, to favorable weather patterns, notably relatively mild winters in both 2014 and 2015 (MFWP 2016b). Male counts on leks in 2016 were 17% above the long-term average.

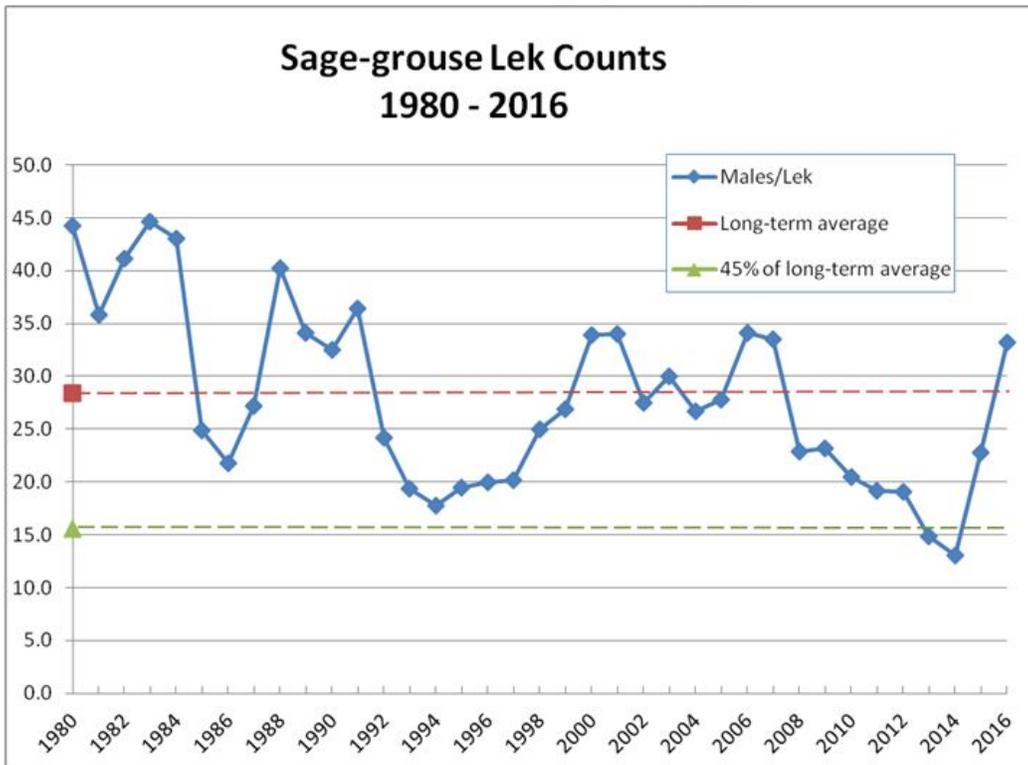


Figure 7. Annual average male lek counts with 10 or more years of data (n = 34-88 surveyed leks). Source: MFWP Adaptive Harvest Management monitoring report.

The 2016 lek counts, as a percent of the long-term average by Sage-grouse Management Zone (MZ; Figure 8), indicate that the number of males per lek in MZ I (eastern MT) was 0.6 percent below the long-term average, and the number of males per lek in MZ IV (southwest MT) and MZII (Carbon County) was 20 percent and 89 percent above the long-term average, respectively (Figure 9).

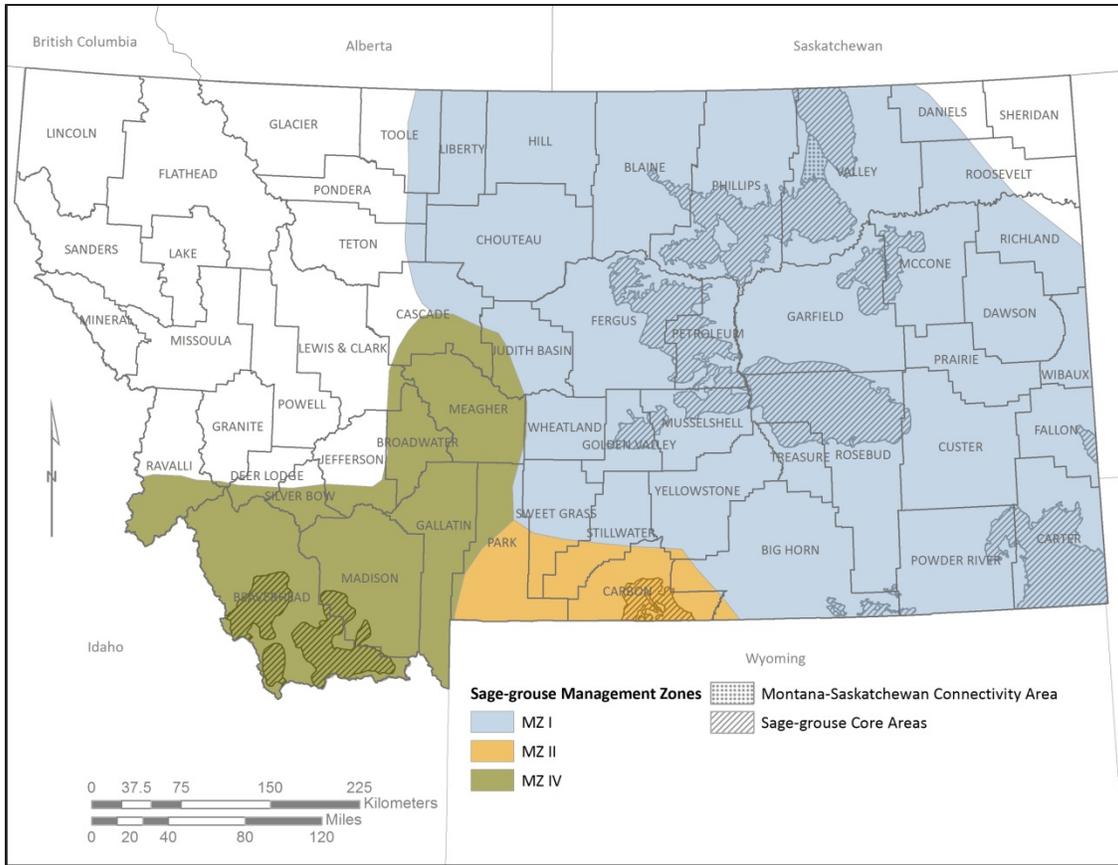


Figure 8. Greater sage-grouse Management Zones in Montana.

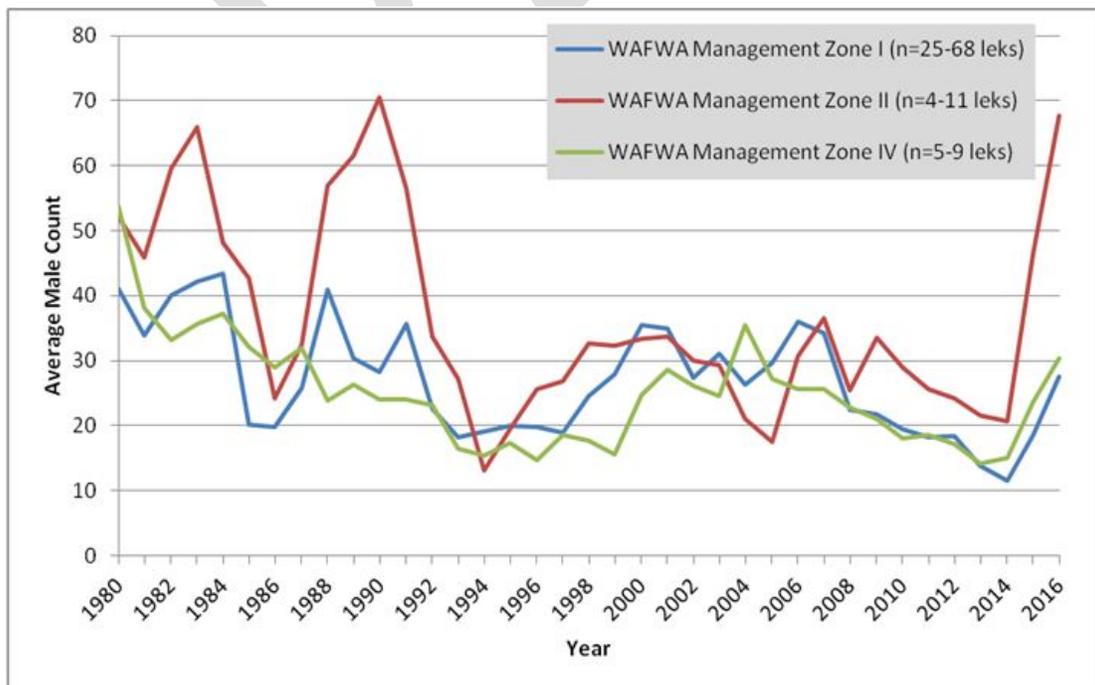


Figure 9. Long-term sage-grouse lek counts by WAFWA Management Zone in Montana (Source: MFWP 2016b).

Declining Grassland Songbirds

Montana’s grasslands provide breeding habitat for a substantial proportion of the global population of Baird’s sparrow (28 percent), chestnut-collared longspur (26 percent), McCown’s longspur (48 percent; Sather unpublished data) and Sprague’s pipit (26 percent; Lipsey et al. 2015). Based on Breeding Bird Survey (BBS) data from 1968-2015, all four grassland songbird species covered under this Programmatic CCAA have experienced significant, long-term declines survey-wide (U.S. and Canada; Sauer et al. 2017). All four songbird species have experienced declines nationally over the same time period, with Baird’s sparrow and chestnut-collared longspur showing significant declines. In Montana, chestnut-collared and McCown’s longspurs have shown declining trends, with chestnut-collared longspur showing significant declines for the period 1968-2015 (Table 1). Montana’s trends for Sprague’s pipit and Baird’s sparrow cannot be determined with certainty, as the credible intervals around the trend estimates include zero.

Table 1. Breeding Bird Survey (BBS) trend data for Montana for the survey periods 1968-2015 and 2005-2015 for the four declining grassland songbirds covered under the Programmatic CCAA (Sauer et al. 2017). Credible intervals (CI) that do not include zero indicate a significant trend.

BBS Trend Data	No. of Routes	<u>1968-2015</u>		<u>2005-2015</u>	
		Trend (percent change per year)	95% CI	Trend (percent change per year)	95% CI
Baird's sparrow	35	0.76	(-2.02, 3.90)	5.06	(-3.56, 16.32)
Sprague's pipit	32	0.01	(-2.97, 2.96)	0.69	(-7.10, 8.69)
McCown's longspur	24	-1.35	(-4.63, 1.78)	0.15	(-8.05, 9.64)
Chestnut-collared longspur	32	-2.28	(-3.58, -0.94)	-1.92	(-4.34, 1.24)

Until 2015, Montana had a relatively low density of BBS routes across the breeding range of these species in Montana. The low density of BBS routes, along with the potential biases associated with roadside surveys, results in substantial uncertainty around population estimates for these species. To obtain population estimates for these species in Montana, we extrapolated density estimates calculated from point counts conducted across the range of these species in Montana for 2010-2015 (Bird Conservancy of the Rockies 2015; Table 2).

Table 2. Density estimates, percent coefficients of variation, and number of detections for the four covered grassland songbird species from point counts conducted 2010-2015 (Source: Bird Conservancy of the Rockies 2015). Population estimates were extrapolated by multiplying density estimates by the area of grassland habitat within the individual range of each species in Montana (based on the assumption that birds were evenly distributed throughout grassland habitat).

Species	Survey Year	Density of birds/km ²	Percent coefficient of variation	Number of detections	Population estimate within grasslands within species range in Montana
Baird's sparrow	2010	1.37	35	60	116,389
	2011	1.03	35	57	87,504
	2012	2.81	23	59	238,726
	2013	0.28	53	22	23,788
	2014	1.8	23	177	152,920
	2015	6.87	25	110	583,646
Chestnut-collared longspur	2010	8.02	38	178	682,011
	2011	9.53	33	225	810,420
	2012	6.42	28	161	545,949
	2013	1.71	40	64	145,416
	2014	4.55	31	221	386,927
	2015	4.67	37	139	397,131
McCown's longspur	2010	1.25	36	75	113,311
	2011	3.51	39	90	318,177
	2012	2.99	79	76	271,040
	2013	0.22	72	3	19,943
	2014	1.67	56	91	151,384
	2015	1.2	88	5	108,779
Sprague's pipit	2010	0.26	65	40	20,966
	2011	0.73	31	70	58,866
	2012	2.59	18	55	208,854
	2013	0.19	65	25	15,321
	2014	0.46	39	108	37,094
	2015	0.81	38	60	65,317

Primary Threats to Greater Sage-grouse and Declining Grassland Songbirds Related to Ranching and Agricultural Activities

In 2015, the Service issued a finding on a petition to list the sage-grouse as threatened or endangered under the ESA. The Service evaluated the individual impact of threats to the sage-grouse, including nonrenewable energy development, infrastructure, agricultural conversion, wildfire and invasive plants, improper livestock grazing, free-roaming equids, conifer encroachment, mining, renewable energy development, predation, disease, urbanization, recreation, climate change, drought, hunting, scientific and educational use, contaminants,

military activities, small populations, and inadequacy of existing regulatory mechanisms. Based on new information and effective regulatory mechanisms implemented since the 2010 finding, the Service determined that none of these impacts were substantial threats to the sage-grouse individually or cumulatively to warrant listing under the ESA. However, multiple threats impacting populations and habitats of the Covered Species have been identified. Threats to sage-grouse and its habitats are summarized in the Montana Sage-grouse Management Plan (Montana Sage-grouse Work Group 2005), the Conservation Objectives Team (COT) Final Report (USFWS 2013), and the Montana Greater Sage-grouse Conservation Strategy (MT EO 12-2015).

Threats to the covered declining grassland songbirds and their habitats have been summarized in several documents for Sprague's pipit (Jones 2010, 75 FR 56028 56050, USFWS 2014), and in technical conservation assessments for Baird's sparrow (Wiggins 2006), chestnut-collared longspur (Sedgwick 2004a), and McCown's longspur (Sedgwick 2004b). The following threats are those related to ranching and agricultural activities that may occur on covered lands and impact the Covered Species on privately owned ranching and agricultural lands in Montana.

1. Habitat Loss and Fragmentation

The greatest threat to all species covered under this Programmatic CCAA is loss of habitat due to conversion, degradation, or fragmentation. In eastern Montana, much of the sagebrush and grassland habitats suitable for agricultural have already been converted to cropland, and the risk of substantial cropland conversion in the future is relatively low (Lipsey et al. 2015, 80 FR 59858, Smith et al. 2016). However, even minor increases in cropland can substantially reduce habitat suitability for the Covered Species (Lipsey et al. 2015, Smith et al. 2016).

Historically, sagebrush removal practices to improve rangelands for livestock have been locally common in portions of Montana, particularly southwest Montana (Wambolt and Payne 1986, USFWS 2013), although it is unknown to what extent these practices currently occur.

2. Livestock Grazing Management Inconsistent with the Needs of the Covered Species

Livestock grazing is the dominant land use in native sagebrush and grassland systems, playing an important role in preventing cropland conversion. Livestock grazing is also the primary management tool in these systems; however, inappropriate grazing management can degrade habitat quality for the Covered Species. Livestock grazing can reduce both vegetation height and canopy cover, which provide protective cover for sage-grouse during the nesting and brood-rearing periods (Hagen et al. 2007). Livestock grazing in riparian areas and associated mesic and wetland sites can reduce the availability of succulent forbs used by sage-grouse chicks (Aldridge and Brigham 2002). Livestock grazing management can also result in soil compaction and disturbance, reducing the cover of native vegetation and reducing the resistance of these sites to invasion by exotic plant species.

The effects of grazing on the covered grassland songbirds are highly variable and depend on soil productivity (Kantrud and Kologiski 1983) and precipitation (Lipsey and Naugle 2017). McCown's and chestnut-collared longspurs prefer grasslands with short, sparse vegetation and

often respond positively to moderate to heavy livestock use in mixedgrass prairie (Dechant et al. 2002 a, b). Conversely, heavy grazing in native mixed grasslands can reduce vegetation heights below levels suitable for Sprague's pipit (Dechant et al. 2001) and Baird's sparrow (Wiggins 2006).

Other factors such as water developments and salt/mineral supplements can be necessary tools used to influence the distribution of livestock. However, such developments can artificially concentrate livestock resulting in trampling and potential overutilization of vegetation (Knick et al. 2011). Additionally, diversion of springs and other water sources can impact riparian and wet meadow habitats important to sage-grouse hens and broods.

3. Non-native, Invasive Plant Species

Non-native, invasive plant species can modify native plant community composition, structure, and productivity (DiTomaso et al. 2010), altering ecological processes and disturbance regimes (Vitousek 1990) and reducing habitat suitability for the Covered Species (Davis and Duncan 1999, Leu, et al. 2008, Miller et al. 2011, Davis et al. 2013). Exotic forbs such as yellow sweetclover and leafy spurge are highly invasive in the Northern Great Plains (Lesica and DeLuca 2000, Belcher and Wilson 1989) and can reduce habitat quality for grassland birds (Wilson and Belcher 1989, Scheiman et al. 2003). Non-native grasses are a wide-ranging threat to the integrity of sagebrush and grassland systems and can considerably degrade habitats for the Covered Species (Davis and Duncan 1999, Lloyd and Martin 2005, Miller et al. 2011, Ellis-Felege et al. 2013). The resilience of habitats to stress and disturbance and their resistance to invasion by non-native plant species is categorized as moderate to high for much of the range of the Covered Species in Montana (Chambers et al. 2014, 2016), indicating that much of these areas have the capacity to recover from disturbances and to resist invasion, given the appropriate management (Chambers et al. 2016).

Annual brome grasses (*Bromus* spp.) are distributed throughout the range of the Covered Species. Cheatgrass (*B. tectorum*) matures early in the growing season, and the resulting dry, abundant litter creates a highly flammable fuel layer that can alter fire regimes (Grace et al. 2001). Although cheatgrass is a widespread threat in the Intermountain West and Great Basin, in Montana cheatgrass is typically a more localized threat. However, cheatgrass is expanding its distribution at higher elevations (Mealor et al. 2012), and projected warming trends may increase the susceptibility of higher elevation sagebrush habitats to invasion by cheatgrass (Bradley 2009, Mealor et al. 2012).

In the Northern Great Plains, cheatgrass is largely confined to disturbed areas, and field brome (*B. arvensis*, formerly *B. japonicus*) is the dominant annual brome (Vermeire et al. 2009). Unlike cheatgrass, populations of field brome are substantially reduced following fire, which kills both plants and seeds and removes the litter layer required for seed germination (Whisenant 1990, Grace et al. 2001). Field brome readily invades undisturbed, native plant communities and can reduce plant biomass (Ogle et al. 2003), decrease productivity of native grasses, and compete with native perennial plant species for water and nutrients (Haferkamp et al. 1997).

Crested wheatgrass is a perennial bunchgrass that has been widely planted in the Northern Great Plains (Lesica and DeLuca 1996). Stands of crested wheatgrass often occur as monocultures, but this species can invade into adjacent native grasslands (Heidinga and Wilson 2002, Henderson and Naeth 2005). Crested wheatgrass stands homogenize grasslands in terms of both species composition and vegetative structure (Henderson and Naeth 2005). Although the covered grassland songbird species will use non-native grasslands, the quality of these habitats is reduced, resulting in reduced bird abundance (Davis and Duncan 1999, Davis et al. 2013, Ludlow et al. 2015), lowered reproductive success (Lloyd and Martin 2005, Fisher and Davis 2011), and reduced bird species diversity (Lipsev and Naugle 2017).

4. Haying/Mowing and Seed Harvest

Grassland management practices such as haying, mowing, or seed harvest of native grassland may have negative impacts to populations of the Covered Species. Mowing can cause direct mortality to adults and cause the destruction of nests and young. Species such as Baird's sparrow and Sprague's pipit may be at increased risk because they prefer the dense vegetative cover that may be selected for mowing (Dechant et al. 2002c, Jones 2010). Sage-grouse foraging and loafing in agricultural areas can be also killed by mowing equipment (Wambolt et al. 2002).

5. Range Management Structures

Range management structures such as water developments for livestock are necessary tools for grazing management. However, without appropriate Conservation Measures, such structures can pose hazards to the Covered Species and their habitats. Sage-grouse can become trapped in water tanks and drown, having localized impacts on sage-grouse populations (Sika 2006). Other water developments can concentrate livestock in sensitive riparian and wetland habitats. Infrastructure associated with range management structures can serve as perches for avian predators. Predators can negatively impact the reproductive success of sage-grouse (Hagen 2011) and the covered grassland songbirds (Jones et al. 2010, Ludlow et al. 2014).

6. Conifer Encroachment

Conifer encroachment is primarily an issue in sagebrush habitats, where encroaching conifers can reduce the cover of sagebrush and herbaceous plants (Miller et al. 2008, Baruch-Mordo et al. 2013). Sage-grouse generally avoid breeding in areas with as little as four percent conifer canopy cover (Baruch-Mordo et al. 2013). In Montana, encroachment of native conifers, typically Rocky Mountain juniper (*Juniperus scopulorum*) and Douglas-fir (*Pseudotsuga menziesii*), into sagebrush has occurred in localized areas due in part to fire suppression, historic livestock grazing management, and climate.

In the Northern Great Plains, Rocky Mountain juniper is typically restricted to steep, north-facing slopes, although some limited expansion has occurred due to reduced fire frequency and overgrazing (Scher 2002). It exists primarily as scattered stands (Rumble and Gobeille 1995, Cooper et al. 2001), and differs from western juniper (*J. occidentalis*) by occurring in more open stands (Scher 2002).

In southwest Montana, canopy cover of Rocky Mountain juniper rarely exceeds 30 percent (Cooper et al. 1999, Kitchen et al. 2016). Historically, Douglas-fir in southwest Montana occurred in isolated open-canopy stands, but this species has expanded into adjacent sagebrush habitats (Heyerdahl et al. 2006). Douglas-fir and Rocky Mountain juniper often co-occur in southwest Montana, with Douglas-fir reaching higher canopy cover than juniper. Expansion of both conifer species results in reduced cover of sagebrush (Kitchen et al. 2016).

Woodland succession has been described in three transitional phases: Phase I-trees are present (<1-10 percent canopy cover) but shrubs and herbaceous cover are the dominant vegetation; Phase II-trees are co-dominant (>10-30 percent canopy cover) with shrubs and herbaceous vegetation; and Phase III- trees are the dominant vegetation with greater than 30 percent canopy cover (Miller et al. 2008). Treatment options are more limited in Phase III given the lack of desirable understory plant species and increased treatment costs, so tree removal should be prioritized in Phase I and II (Miller et al. 2008).

7. Tree Rows and Windbreaks

Historically, the Northern Great Plains were mostly treeless, but trees and shrubs associated with tree rows and other windbreaks have been planted extensively across the Northern Great Plains around the perimeters of farms and homesteads to prevent erosion and to protect crops, buildings, and livestock from wind and snow. Grassland songbirds avoid the habitat edges created by these linear woody plantings (Grant et al. 2004, Quamen 2007, Ellison et al. 2013), avoiding otherwise suitable grassland habitat at least 240 meters (800 feet) from woody edges (Quamen 2007). Similarly, sage-grouse distribution and habitat suitability decline with increasing tree cover (Miller et al. 2017).

8. Infrastructure

Infrastructure such as power lines, communication towers, and wind turbines can have a direct impact on the Covered Species due to risk of collision. They can also indirectly influence habitats for the Covered Species by providing perching and nesting sites for avian predators (Braun 1998, Connelly et al. 2004, Coates et al. 2014), facilitating the spread of exotic plant species (Knick et al. 2011), and fragmenting habitats (Wisdom et al. 2011). Additional infrastructure such as abandoned outbuildings, debris piles, and landfills can also attract and subsidize predators.

9. Fences

Fences result in direct mortality and injury to sage-grouse due to collision (Stevens et al. 2012). Fences also indirectly affect the Covered Species by fragmenting habitats, creating travel corridors for predators, and creating perches for avian predators (Braun 1998) and brood parasites, such as the brown-headed cowbird (*Molothrus ater*; Shaffer et al. 2003).

10. Insecticides

Although certain insecticides may cause mortality due to direct exposure (Blus et al. 1989, Mineau and Whiteside 2013), insecticides primarily impact the Covered Species by reducing insects used as food sources for both adults and young birds. Insects are an important food

source for sage-grouse chicks during the first three weeks of life (Schroeder et al. 1999), and both adults and young of the covered grassland songbirds rely on insects for food during the breeding season (Green et al. 2002, With 2010, Davis et al. 2014a, Bleho et al. 2015).

11. Roads

Roads can result in direct mortality of Covered Species due to vehicle collisions. Roads can indirectly influence populations of the Covered Species by fragmenting habitat, creating barriers to seasonal movements (Holloran 2005), reducing sage-grouse lek attendance (Blickley et al. 2012), facilitating movement of predators, and enhancing spread of non-native plant species (Gelbard and Belnap 2003, Connelly et al. 2004).

The degree of road impacts to habitats for the Covered Species depends upon the level of road improvement. The amount of habitat disturbed increases with the level of road improvement (Gelbard and Belnap 2003). Improved roads tend to have wider berms that are often planted with non-native plant species, creating additional unsuitable habitat for the covered grassland songbird species (Sutter et al. 2000). Several grassland songbirds avoid habitat edges associated with otherwise suitable grassland habitat (Sutter et al. 2000, Sliwinski and Koper 2012), avoiding habitats at least 400 meters (1,300 feet) from roads (Linnen 2008).

12. Recreation

Non-consumptive recreation such as wildlife watching, photography, hiking, and OHV use can degrade habitats for the Covered Species. Recreational activities can have a range of effects on habitats such as soil disturbance, spread of exotic plant species, and predator attraction (Knick et al. 2011). Additionally, human activity can affect behavior of the Covered Species via increased noise disturbance (Knick et al. 2011). Recreational viewing of sage-grouse leks is popular in some areas, and MFWP has developed lek viewing guidelines to minimize disturbance to the birds during the breeding season. Although no research has focused on the covered grassland songbirds, disturbances associated with features such as recreational trails can impact nest site selection and nesting success (Miller et al. 1998).

2.3. Conservation and Recovery Efforts to Date in the CCAA Covered Area

This Programmatic CCAA focuses on the implementation of Conservation Measures on privately owned ranching and agricultural lands in Montana. Additional efforts at the State and Federal level also contribute to the conservation and recovery of sage-grouse in Montana.

The Governor of Montana signed Executive Order (EO) 10-2014 on September 9, 2014, which set forth the Montana Sage-grouse Conservation Strategy (Strategy) and established the Montana Sage-grouse Oversight Team (MSGOT) and the Montana Sage-grouse Habitat Conservation Program (Program). The Program facilitates the implementation of the Strategy for the conservation, regulatory protection, and management of sage-grouse. MSGOT oversees the administration of the Program. The Strategy and the role of the Program and MSGOT were further defined in EO 12-2015, signed on September 8, 2015, which provides regulatory

authority for activities requiring State permits or authorizations on State and private lands within sage-grouse core and general habitats and the connectivity area, and requires that State agencies adhere to the requirements and stipulations set forth in the Strategy. The Program is administered by the Montana Department of Natural Resources and Conservation.

The 64th State Legislature of Montana enacted Senate Bill 261, the Montana Greater Sage-grouse Stewardship Act, which established the Sage-grouse Stewardship Fund to maintain, enhance, restore, expand, or benefit sage-grouse habitat and populations. The Stewardship Fund is a source of competitive funding to facilitate free-market mechanisms for voluntary, incentive based conservation in sage-grouse habitats on private lands. MSGOT administers the Stewardship Fund.

In November 2015, the Montana Department of Natural Resources and Conservation, as directed by the Montana EO, brought the following actions before the Montana State Board of Land Commissioners for approval: (1) prohibition of conversion of native rangeland (with some exceptions for areas of 8 ha [20 ac] or less in size) in sage-grouse core and general habitats and the connectivity area; (2) prohibition of sagebrush eradication in sage-grouse core and general habitats and the connectivity area; and (3) development of sage-grouse habitat evaluation criteria and a corrective action plan for livestock grazing leases in sage-grouse core habitat and the connectivity area. The Montana State Board of Land Commissioners approved these actions on State Trust lands, totaling 370,531 ha (915,603 ac) of core habitat and connectivity area and 696,059 ha (1.72 million ac) of general habitat.

Additionally, MFWP has collaborated with private landowners in Montana to enroll nearly 80,000 ha (200,000 ac) in conservation leases, in which landowners agree not to convert or otherwise eliminate sagebrush and other native vegetation on the enrolled acres for 30 years (C. Wightman, pers. comm.).

In September 2015, the BLM and the USDA Forest Service (USFS) released Records of Decision for Resource Management Plans (RMP) and RMP Amendments (RMPA) for the Rocky Mountain and Great Basin Regions (USDI BLM 2015a, b) and land use plan (LMP) amendments for the Great Basin planning region (USFS 2015), which cover Montana. These RMPs/RMPAs and LMP amendments provide regulatory mechanisms to address threats to sage-grouse and sage-grouse habitats on lands administered by the BLM and USFS. In Montana, the USFS LMP amendment covers the Beaverhead-Deerlodge National Forest in southwestern Montana. The BLM's RMPs/RMPAs cover six planning areas: Billings, Pompey's Pillar National Monument, HiLine District, Miles City, Lewistown, and Southwest Montana. The HiLine District RMP also applies management actions to grassland bird priority areas identified in north Phillips County and north Valley County that coincide with sage-grouse core areas. The sage-grouse is listed as a sensitive species by both the BLM and USFS rangewide. The BLM has also designated the four declining grassland songbirds as sensitive species on BLM lands. Species designated as sensitive require special management consideration during land use planning and activity implementation.

The BLM has identified Sagebrush Focal Areas (SFAs) across the range of sage-grouse that correspond to sage-grouse strongholds identified by the Service, representing habitat vital to the persistence of sage-grouse (Memorandum FWS/AES/058711, October 27th, 2014). The BLM applies the highest levels of protections to SFAs in their recent RMPs/RMPAs, and management efforts are prioritized in these areas. The Montana SFAs are located primarily in the South Phillips core area, with smaller acreages in the Fergus core area, and totals nearly 356,000 ha (878,000 acres; Figure 10). Additionally, several other areas of special designation by the BLM (e.g., Wilderness Study Areas, Areas of Critical Environmental Concern) maintain intact habitats within these landscapes, supporting populations of the Covered Species.

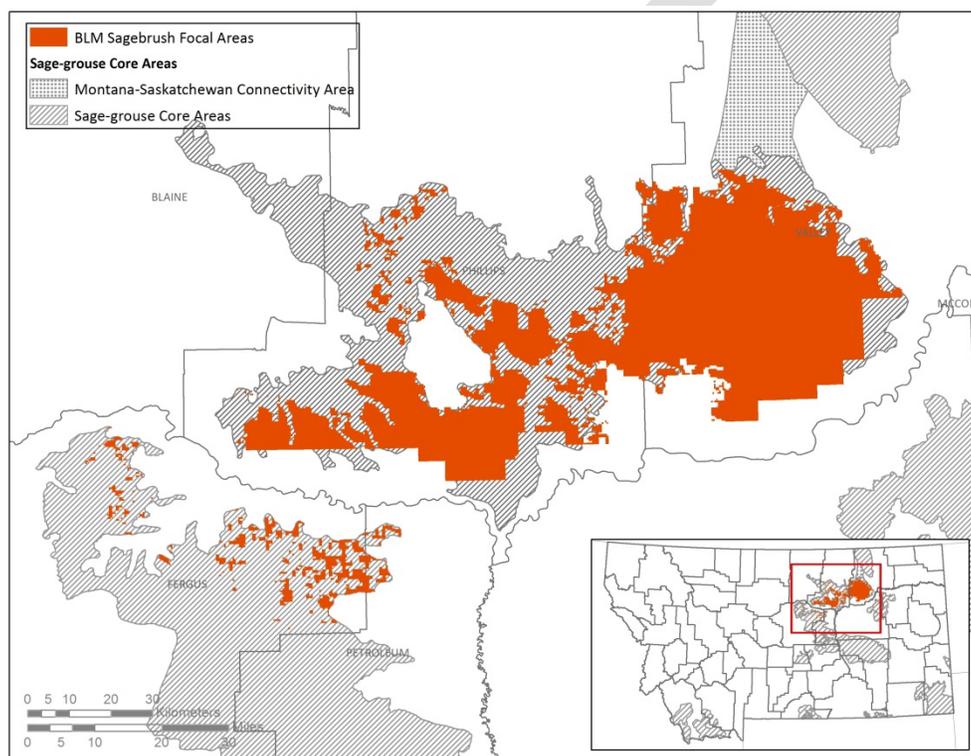


Figure 10. Sagebrush Focal Areas designated by the BLM in its Resource Management Plan/Resource Plan Amendment for the HiLine and Lewistown planning areas.

The NRCS uses various Farm Bill programs to fund restoration and protection efforts in sage-grouse habitats and has used these funds to implement conservation measures through the Sage Grouse Initiative (SGI; <http://www.sagegrouseinitiative.com/>). In Montana, the NRCS has provided assistance to private landowners to address several threats to sage-grouse by protecting habitat from conversion to cropland through conservation easements in sage-grouse habitats, reducing collision risk through fence marking, removing conifers encroaching into sagebrush habitats, and implementing livestock grazing systems (NRCS 2015a). These efforts will continue through 2018 with the release of SGI 2.0 (NRCS Montana 2015, NRCS 2015b).

Other federal programs such as the “Sodsaver” provision in the 2014 Farm Bill (U.S. Agricultural Act of 2014; H.R. 2642) reduced federal subsidies to producers who convert native grasslands to croplands, reducing the risk of agricultural conversion of native grasslands in Montana.

In 2003, TNC established a 60,000 acre grassbank in south Phillips County that allows local ranchers to graze at a discounted cost in exchange for implementing Conservation Measures on their own properties, including a commitment to not convert rangeland to cropland. This requirement expands the conservation benefit of this grassbank to an additional 263,000 acres of private grazing land.

2.4. Role of the Covered Lands in the Conservation of Greater Sage-grouse and Declining Grassland Songbirds

Sage-grouse and the four declining grassland songbirds covered under this Programmatic CCAA are landscape-scale species, relying on a diversity of habitat conditions to meet their life history requirements. Privately owned grazing lands in Montana provide large, intact habitats vital to populations of the Covered Species. In Montana, approximately 66 percent of sagebrush and 63 percent of grassland habitats are privately owned. The conservation value of these lands is enhanced when they occur within a matrix of protected lands such as conservation easements and public lands. In Montana, the greatest proportion of sage-grouse (64 percent) and grassland songbird (53 percent) habitats under public ownership are administered by the BLM.

Nearly 15 million ha (37 million ac) of non-Federal rangeland used for livestock grazing occur in Montana (USDA 2013). Montana supports approximately 18 percent of the rangewide population of sage-grouse. Private rangelands support 56 percent of the known active sage-grouse leks in Montana (MFWP unpublished data).

3. COVERED ACTIVITIES

Covered activities refer to those activities undertaken by landowners on properties enrolled in the Programmatic CCAA that may result in authorized incidental take of the Covered Species consistent with the Permit and the Programmatic CCAA during the term of the CI. The following sections detail covered activities under this CCAA.

3.1. Land Use and Activities

The following activities are considered compatible with or beneficial to populations and habitats of sage-grouse and/or declining grassland songbirds if properly implemented with appropriate Conservation Measures. Therefore, these land uses and activities, whether ongoing or implemented in the future, are covered under this Programmatic CCAA and associated CIs. CIs issued to enrolled property owners will authorize specified incidental take of sage-grouse and/or grassland songbirds associated with these activities on the enrolled property provided that the CI is being properly implemented.

1. *General farm operation*: cultivation of existing fields (planting, cultivation, and harvesting small grain, seed, and/or hay crops); irrigation by flooding or sprinklers; weed control within fields; and maintenance of houses, outbuildings, fences, and corrals.
2. *General ranching and livestock operations*: grazing of forage; feeding hay and dietary supplements in feedlots and pastures; calving and branding operations (including temporary penning of animals); disposal of animals; construction and placement of watering sources; gathering and shipping of livestock; general stewardship; and animal husbandry practices.
3. *Recreation*: For the purposes of this Programmatic CCAA, the following land use, management, and recreational activities are defined as “covered activities,” although they may be further refined in individual site-specific land management plans: legal hunting and fishing; use of recreational vehicles both on and off established roads; horseback riding; camping; and hiking.
4. *Rangeland Treatments*: conifer treatments/removal; seeding with native seed; treatment of non-native plant species, including use of specific herbicides as described in Appendix C; general stewardship of rangelands.
5. *Species and Habitat Monitoring*: activities conducted as part of compliance and effectiveness monitoring as outlined in this Programmatic CCAA and further detailed in individual site-specific land management plans.

The Permit and CIs under this Programmatic CCAA will not authorize take resulting from energy development activities.

3.2. Conservation Measures

3.2.1. Conservation Measures and Conditions Required of All Enrolled Property Owners

The primary threat to the Covered Species is habitat loss and fragmentation. Thus, to ensure that this Programmatic CCAA and the associated CIs address the conservation needs of the Covered Species, **the following Conservation Measure must be implemented by all enrolled property owners on the enrolled portion of their properties:**

Maintain contiguous habitat by not undertaking new activities that would result in fragmentation (e.g., do not subdivide, develop, or convert habitat on the property).

Additionally, each enrolled property owner must agree in an approved CI to abide by the following conditions:

1. Avoid impacts to populations and individuals of the Covered Species present on their enrolled property to the maximum extent practicable.
2. Continue any current practices identified in their CI as conserving the sage-grouse and/or declining grassland songbirds.
3. Develop a final site-specific land management plan, approved by the Service, within 18 months following approval of their CI. The site-specific plan should detail how the current practices, Conservation Measures, and monitoring described in this CCAA will be implemented on the enrolled property.
4. Comply with the terms and conditions of their CI.
5. Implement all agreed-upon Conservation Measures listed in the site-specific land management plans within the agreed-upon timeframe.
6. Allow the Service and/or designated representatives access to the enrolled property at mutually agreed-upon times to identify or monitor sage-grouse and/or declining grassland songbirds and their habitats, assist in implementation of Conservation Measures, and monitor CCAA compliance and effectiveness of Conservation Measures, as needed (at reasonable hours and times in accordance with 50 CFR §§ 13.21 (e)(2) and 13.47). Nothing in this section precludes the Service from carrying out its duties as required and authorized by law.
7. When requested, allow Cooperators to share with each other habitat and other planning or monitoring information related to their enrolled properties.
8. Cooperate and assist with monitoring activities and other reporting requirements identified in CIs and site-specific land management plans.

3.2.2. Conservation Measures to be Determined for Each Enrolled Property

This Programmatic CCAA lists a suite of Conservation Measures designed to address all of the key threats that may occur on lands used for ranching and agricultural activities within the Programmatic CCAA's covered area (Table 3). TNC will assist each enrolled property owner with the assessment of the threats that occur on the property to be enrolled and the selection of appropriate Conservation Measures from those measures identified in this Programmatic CCAA. To meet the CCAA standard, conservation actions in a CCAA and associated CIs must remove or reduce all of the key threats on the enrolled properties over which the enrolled property owners have control. The Service and TNC recognize that each property is unique and that the appropriate Conservation Measures will be site-dependent. Not every Conservation Measure identified for a particular threat in this Programmatic CCAA will need to be implemented on an enrolled property, provided that the appropriate measures are selected to address each of the key threats and that all of the key threats identified on the property are addressed. The selection of site-specific Conservation Measures will be based upon their likely effectiveness and appropriateness for a given property. Consequently, the Conservation Measures selected for the enrolled property should be the most beneficial for the sage-grouse and/or declining grassland songbirds and their habitats on that particular property.

Although the Conservation Measures identified in this Programmatic CCAA for a given threat apply to ranching or agricultural lands across this Programmatic CCAA's covered area,

unanticipated changes in site-specific conditions could occur that may warrant adjustments to the agreed upon Conservation Measures. Such adjustments to Conservation Measures will occur in consultation with participating property owners and TNC, and with the agreement of the Service. The CI for the enrolled property must note any adjustments in Conservation Measures and include supporting rationale.

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Table 3. List of threats, conservation objectives/benefits, and associated Conservation Measures for ranching and agricultural activities on private lands in Montana. The Nature Conservancy will assist each enrolled property owner with the identification of the key threats occurring on the property and the selection of appropriate Conservation Measures to address those threats. Not every Conservation Measure for a particular threat will need to be implemented on each enrolled property, provided that the measures that are most beneficial for sage-grouse and/or declining grassland songbirds and their habitats are selected on the enrolled property. Conservation Measures may apply to all of the Covered Species (ALL), primarily sage-grouse (GRSG), or primarily declining grassland songbirds (DGS).

<i>Threat 1. Habitat Loss and Fragmentation (e.g., agricultural conversion, sagebrush removal, exurban development)</i>
Conservation Objective/Benefit: Maintain or increase existing native grassland/sagebrush steppe habitat quantity and habitat quality for the Covered Species.
NOTE: Conservation Measure 1.1 MUST be implemented by all enrolled property owners.
1.1. Maintain contiguous habitat by undertaking no new activities that would result in habitat loss or fragmentation (e.g., do not convert native grasslands or sagebrush habitat to cropland or tame pasture/hayland; do not further subdivide, develop, or fragment existing native grassland or sagebrush habitats). If property owner enters into a conservation easement or lease, the term of the easement or lease must match or exceed the duration of the CI. Terms of the easement or lease should address: subdivision or development; removal or manipulation of native vegetation; and draining, filling, dredging, or impounding any wetland or riparian area. (ALL)
1.2. Do not eliminate sagebrush habitats. Work with agency specialists to determine if sagebrush treatments to implement habitat improvements are needed and appropriate. Adhere to any resulting agreed-upon plan for implementing such treatments. (GRSG)
1.3. Do not drain, fill, dredge, or impound wetlands or riparian areas, unless incorporated into an agreed-upon plan. (ALL)
<i>Threat 2. Livestock Grazing Management Inconsistent with the Needs of the Covered Species</i>
Conservation Objective/Benefit: Maintain or improve current native vegetation cover, accounting for soils and corresponding ecological site potential, to provide sage-grouse and/or declining grassland songbird habitats.
2.1. Develop a grazing management plan, implemented and evaluated annually, that maintains or enhances the existing native plant community to ensure suitable habitats for the Covered Species relative to the soils and corresponding ecological site potential on the enrolled property. Grazing management plans applied to native rangelands will be developed based on field data and appropriate ecological site descriptions and NRCS stocking rate recommendations. (ALL)
2.2. Avoid grazing the same native pasture or key seasonal habitat (e.g., late brood rearing) in the same season (i.e., spring, summer, or fall) for more than two consecutive years. (ALL)
2.3. Do not feed hay in native grassland except where supplemental feeding is allowed as part of an approved ranch plan. Monitor supplemental feeding areas to ensure that non-native plant species do not become established or increase in cover. (ALL)

<p>2.4. Use the NRCS Riparian Assessment Method to determine the stability and sustainability of riparian areas. Manage grazing in wetlands and riparian areas to ensure stream channel stability and maintenance of wetland and riparian vegetation. If necessary, exclude livestock from these areas with temporary fencing where excessive use is causing damage to vegetation or bank stability. (ALL)</p>
<p>2.5. Develop stock water facilities as needed to reduce impacts to wetlands and riparian areas. Any necessary and new livestock water facilities will be constructed in uplands using methods such as pipelines, tanks, water gaps, or mobile water systems to provide high quality water for livestock while avoiding excessive, unplanned disturbance to wildlife habitat. Any impacts to wetland or riparian function will be avoided or minimized. (ALL)</p>
<p>2.6. Where possible, restore any drained wetlands or degraded streams and riparian areas. (ALL)</p>
<p>2.7. Use rotational grazing practices that promote a variety of vegetation structures in grassland habitat. Adjust livestock use (timing and frequency, stocking rates, and duration), as appropriate, to create variety in vegetative structure that provides diverse grassland habitat for multiple species with diverse habitat requirements. (DGS)</p>
<p>2.8. Adjust livestock use to reduce the canopy cover and structure of non-native forbs such as alfalfa and yellow sweet clover, and non-native grasses such as crested wheatgrass, annual bromes, smooth brome, and Kentucky bluegrass. For example, targeted early-season grazing can be used alone or in combination with prescribed burning. (DGS)</p>
<p>Conservation Objective/Benefit: Avoid and minimize disturbance to sage-grouse breeding and nesting activities.</p>
<p>2.9. Avoid livestock husbandry activities, such as branding and round-ups, within 0.6 miles of active sage-grouse leks from March 1 through July 15, unless such actions occur within existing corrals. Livestock turnout and trailing should be timed and located to avoid concentrating livestock on leks during the breeding season. (GRSG)</p>
<p>2.10. Avoid the use of machinery and vehicles or other disruptive activities within 0.6 miles of an active lek from March 1 through July 15. Exceptions can be made for brief disruptions essential to routine ranch activities that occur for no more than two consecutive days outside of the hours of 4:00 am – 8:00 am and 7:00 pm – 10:00 pm. (GRSG)</p>
<p>Conservation Objective/Benefit: Minimize disturbance to nests and young birds.</p>
<p>2.11. Avoid off-road vehicular travel in breeding habitat between March 1 and July 15 unless such travel is essential for routine ranch activities (e.g., herding or trailing livestock, repairing fence, doctoring livestock, irrigation activities, etc.). (ALL)</p>
<p>Conservation Objective/Benefit: Minimize impacts of salt and other supplement placements to breeding or late brood-rearing sage-grouse habitats.</p>
<p>2.12. Place salt and other supplements at least 0.25 miles from riparian areas and other late brood-rearing habitats. Avoid placing salt and other supplements on or adjacent to an active lek from March 1 to May 15. (GRSG)</p>
<p>Conservation Objective/Benefit: Minimize impact of cattle congregating near leks while active.</p>
<p>2.13. Move salting locations as necessary to minimize impacts to vegetation, except in instances where salting location is part of an effort to control invasive plants (e.g., placed repeatedly in areas dominated by crested wheatgrass). (GRSG)</p>

<i>Threat 3. Non-native, Invasive Plant Species (including noxious weeds)</i>
Conservation Objective/Benefit: Minimize the introduction or spread of invasive and/or noxious weed species that reduce habitat quality for the Covered Species.
3.1. Use only native seed mixes when restoring or enhancing habitats. (ALL)
3.2. Work with county and state experts (e.g., Weed Districts and/or other local experts) to ensure correct identification of noxious plant species so that any existing or new infestations can be identified. Develop a plan describing survey methods, prevention, and treatment options. (ALL)
3.3. When using herbicides, implement best management practices and use only approved herbicides listed in Appendix C on enrolled lands. (ALL)
3.4. Survey livestock concentration and wintering areas (e.g., corrals, calving lots, feedlots) for invasive or noxious plant species. Treat as necessary with approved herbicides to prevent spread of these species through hay and/or manure. (ALL)
3.5. Monitor for increasing cover of non-native annual grasses (e.g., Japanese brome), particularly near infested rangelands. If necessary, develop a work plan with the appropriate Cooperators to control these species. (ALL)
3.6. When appropriate, inspect and clean any vehicle or machinery that has been used in areas containing invasive or noxious plant species. (ALL)
3.7. Monitor any areas affected by prescribed fire or wildfire for new invasions by noxious or invasive plant species. Prevention and treatment options will be tailored to each enrolled property. (ALL)
3.8. Report any new noxious weed infestations to the appropriate Cooperators. (ALL)
3.9. Monitor enrolled properties for presence of non-native forbs (e.g., yellow sweet clover, alfalfa) and non-native grasses (e.g., Kentucky bluegrass, smooth brome, crested wheatgrass, annual bromes). Work with range specialists and/or other local experts as necessary to implement treatments where these species contribute to declining rangeland condition. For example, treatments such as early-season grazing with or without prescribed burning, can limit the seed production and spread of non-native pasture grasses. (DGS)
Conservation Objective/Benefit: Restore marginal cropland and/or monotypic crested wheatgrass stands to facilitate recovery of sagebrush and/or native grassland habitats for the Covered Species.
3.10. Reduce the cover of non-native, perennial grasses through a combination of appropriate treatments (livestock grazing, prescribed fire, mechanical treatments, or approved herbicides) to facilitate the establishment and persistence of native plant species. (ALL)
3.11. Where ecologically appropriate and beneficial, restore multiple, site-appropriate native species to grasslands dominated by monotypic stands of non-native, perennial grasses (e.g., crested wheatgrass). Prioritization should be given to areas with adequate cover of native plant species and those areas adjacent to existing native sagebrush and grassland habitats. Rest newly seeded/planted areas from livestock use for at least two years. (ALL)

<i>Threat 4. Haying/Mowing and Seed Harvest</i>
Conservation Objective/Benefit: Avoid direct mortality of the Covered Species due to haying/mowing or seed harvest.
4.1. On native grasslands, do not hay until after July 15. (ALL)
4.2. Employ wildlife-friendly haying methods such as: (1) use of a flush bar attachment on mowers; (2) mowing during daylight hours; or (3) using a haying pattern that begins in the center of the field and works outward. (ALL)
4.3. In years where productivity of native grasslands allows for harvesting of native grass seed, seed harvest before July 15 should not exceed 1/4 of the total grassland acreage on the enrolled property. (DGS)
Conservation Objective/Benefit: Reduce seed production, dense vegetation, and litter associated with tame grass pastures to increase suitability of these pastures for grassland songbirds.
4.4. Avoid idling tame pastures (i.e., planted with non-native pasture grasses and forbs) for more than one year. Exceptions could be made for lands enrolled in Conservation Reserve Program (CRP) contracts or other conservation programs that limit management options. (DGS)
<i>Threat 5. Range Management Structures</i>
Conservation Objective/Benefit: Reduce risk of mortality due to drowning for the Covered Species.
5.1. Install and maintain wildlife escape structures on new and existing livestock troughs/tanks. Maintain high water levels in water troughs/tanks when in use. (ALL)
Conservation Objective/Benefit: Reduce the impact of range management structures on habitat quality for the Covered Species.
5.2. Remove or modify infrastructure near water troughs/tanks that serve as frequently used perches for avian predators. (ALL)
5.3. Any new water developments will consider soils, invasive plants, and potential impacts to wetland and riparian condition and function. (ALL)
5.4. Remove any obsolete structures. (ALL)
5.5. Avoid constructing new livestock handling facilities (e.g., corrals, etc.) within 1.2 miles of an active lek unless doing so directly benefits sage-grouse habitats (e.g., consolidates or reduces the number of structures). (GRSG)
5.6. Modify existing spring developments to maintain free-flowing water and associated mesic/wetland vegetation to provide late brood-rearing habitat. (GRSG)

<i>Threat 6. Conifer Encroachment</i>
Conservation Objective/Benefit: Maintain suitable sage-grouse habitat by removing conifers that have encroached into sage-grouse habitats.
6.1. Where practicable, remove all conifers where the ecological site suggests that conifers are expanding into sage-grouse habitats. At a minimum, remove all conifers within 0.6 miles of active sage-grouse leks. Prioritize conifer removal for areas in the early stages of conifer encroachment (Phases I and II). Prioritize the use of mechanical treatments to remove conifers in all sagebrush systems. Use only mechanical treatments in lower elevation, xeric Wyoming big sagebrush communities. Prescribed fire could be considered in high-elevation, mesic sagebrush but only if it can be shown to benefit sagebrush habitats. (GRSG)
6.2. If prescribed fire is selected as a treatment option in high elevation, mesic sagebrush, then a Burn Plan must be developed that discusses alternative techniques not selected as a viable treatment option; how sage-grouse goals and objectives would be better met by the use of prescribed fire; how prescribed fire meets the objectives of the COT report, and a risk assessment to address how potential threats to sage-grouse habitat would be minimized. (GRSG)
6.3. Any conifer removal treatment should include measures to control invasive or noxious plant species. If current perennial understory plant community is in poor condition, seed treatment areas with native seed mixes. (GRSG)
6.4. For Phase I areas, conifers may be felled and left on site. Branches on felled trees should be limbed to the height of the existing sagebrush canopy and scattered. (GRSG)
6.5. For Phase II areas, felled trees may need to be burned. Jackpot burning, where only the slash is burned but the surrounding vegetation remains intact, is the preferred method. Burning should occur when soils are frozen, if possible. (GRSG)
6.6. Ensure that the timing of conifer treatments does not interfere with sage-grouse breeding or other seasonal habitats or seasonal movements. Timing stipulations will be tailored to individual enrolled properties. (GRSG)
<i>Threat 7. Tree Rows and Windbreaks</i>
Conservation Objective/Benefit: Maintain suitable habitat for the Covered Species by removing existing and/or not planting woody vegetation such as linear tree rows and other shelterbelts/windbreaks.
7.1. Do not plant woody vegetation within 0.6 miles of an active sage-grouse lek or within 800 feet of native grasslands. (ALL)
7.2. Remove existing woody plantings, including isolated plantings within the interior of native grasslands. Prioritize removal of linear plantings, as these plantings impact a greater area of grassland habitat. Exceptions could be made for lands enrolled in CRP contracts or other conservation programs that limit management options. (DGS)

<i>Threat 8. Infrastructure</i>
Conservation Objective/Benefit: Maintain intact native sagebrush and grassland plant communities by avoiding fragmentation of suitable habitats associated with infrastructure such as power lines and communication towers. This will also reduce the potential for introduction of non-native, invasive plant species as well as the potential to attract predators.
8.1. Do not construct or allow the construction of wind towers, communication towers, or commercial solar projects on enrolled lands. (ALL)
8.2. Remove any abandoned or unused buildings, power poles, and other structures in native sagebrush or grassland habitats. (ALL)
8.3. Work with utility provider to retrofit existing power lines in suitable sage-grouse and grassland songbird habitats to reduce perching by avian predators. (ALL)
8.4. Remove any dumps, rock piles, and garbage within sage-grouse and grassland songbird habitats to discourage predators. (ALL)
8.5. Avoid aboveground construction of, or bury, new power lines in native sagebrush and grassland habitats. If construction of aboveground power lines in these habitats is unavoidable due to impacts to operation viability, existing facility locations, eminent domain, terrain, or similar constraints, then consolidate new and necessary power lines with existing disturbances such as power line corridors and roads to the maximum extent practicable. If new and necessary power lines cannot be consolidated with existing disturbances, then locate any such power lines as far as possible from native sagebrush and grassland habitats and at least 0.6 miles from active sage-grouse leks. (ALL)
<i>Threat 9. Fences</i>
Conservation Objective/Benefit: Reduce the risk of fence collisions, reduce the availability of perching sites for avian predators, and avoid fragmentation of suitable habitats for the Covered Species.
9.1. Avoid construction of new fences unless necessary to implement grazing management plan. Where feasible, use temporary or seasonal fencing to implement the grazing management plan. (ALL)
9.2. Modify existing fencing to discourage perching by avian predators, or remove existing fencing if no longer needed. (ALL)
9.3. Identify fences that pose moderate to high collision risk to sage-grouse using existing fence collision risk tool (Stevens et al. 2013). Mark any new fences necessary for implementation of the grazing plan, as well as any existing fences, within 1.2 miles of an active lek identified as posing moderate to high collision risk. (GRSG)
<i>Threat 10. Insecticides</i>
Conservation Objective/Benefit: Maintain insects as seasonally important food items for the Covered Species.
10.1. Coordinate with local agency experts concerning treatment options during insect outbreaks. Commit to using the Reduced Agent-Area Treatment (RAAT; Lockwood and Schell 1997) approach and other protocols to avoid and minimize the effects of pesticides. (ALL)

<p>10.2. Avoid spraying insecticides, which can reduce insect availability during the breeding season for both young and adults of the Covered Species, until July 15 except in limited circumstances. Limited circumstances may include insect outbreaks that substantially impact operations. (ALL)</p>
<p>10.3. Establish a no treatment buffer for insecticide use within active sage-grouse leks or known brood-rearing areas. (GRSG)</p>
<p>Threat 11. Roads</p>
<p>Conservation Objective/Benefit: Reduce the impacts of roads, which fragment otherwise suitable habitats and diminish habitat quality through the introduction of non-native, invasive plant species.</p>
<p>11.1. Avoid building new roads in sagebrush and native grassland habitats outside of existing disturbed areas or corridors (see CM 1.1). (ALL)</p>
<p>11.2. Reduce the cover of non-native, invasive vegetation along any new and existing roads using grazing, prescribed fire (grasslands only), and/or chemical treatments, if possible. (DGS)</p>
<p>11.3. When revegetating along any new and existing roads, use appropriate native seed mixes. (ALL)</p>
<p>11.4. Avoid upgrading existing roads (e.g., paving dirt roads, grading two-track roads), especially within intact sagebrush and grassland habitats. Maintenance of existing roads is permitted. (ALL)</p>
<p>11.5. Do not build new, raised roads within 1,000 feet of native sagebrush and grassland habitats nor within 0.6 miles of active sage-grouse leks. (ALL)</p>
<p>Threat 12. Recreation</p>
<p>Conservation Objective/Benefit: Reduce disturbance or harassment of sage-grouse and declining grassland songbirds.</p>
<p>12.1. Avoid recreational OHV use in breeding, nesting, and wintering habitats for the Covered Species. (ALL)</p>
<p>12.2. Where feasible, discourage public off-road travel near known lek sites and brood-rearing habitats. (GRSG)</p>
<p>12.3. Minimize human disturbance associated with recreational activities within 3.1 miles of active leks between March 1 through July 15. (GRSG)</p>
<p>12.4. Protect known lekking and wintering areas by restricting seasonal access to these areas for recreational use with exceptions for property owners participating in MFWP Block Management and similar programs. Dates will be specified in the Certificate of Inclusion. (GRSG)</p>
<p>12.5. Ensure that recreational visitors accessing the enrolled property during the breeding season follow MFWP's (2005) lek viewing guidelines when viewing active sage-grouse leks. (GRSG)</p>

3.3. Changed Circumstances

Changed circumstances are those that affect the sage-grouse and/or declining grassland songbirds or their habitats within the covered area by altering an expected outcome of the Conservation Measures in a CI. As used in this section, changed circumstances include only such circumstances that can be reasonably anticipated and for which the Service, enrolled property owners, and the Cooperators can plan responses (see Section 4.4 below regarding unforeseen circumstances). This CCAA has identified wildfire (both natural and anthropogenic), drought, West Nile virus, habitat fragmentation from development not controlled by the enrolled property owner, and catastrophic flooding as potential changed circumstances that are reasonably anticipated to occur over the 20-year term of this CCAA.

The contingency responses to the identified changed circumstances, referred to as Changed Circumstances Conservation Measures (CCCMs) and described below, are considered part of this Programmatic CCAA as well as each CI through which properties are enrolled under this agreement. As a result, any incidental take of sage-grouse and/or declining grassland songbirds resulting from implementation of the CCCMs provided for in this CCAA is authorized by this CCAA and the Permit. The Service will not impose any restrictions or Conservation Measures beyond those identified in this Programmatic CCAA or CI without the consent of the enrolled property owner(s), provided the CI is being implemented as agreed.

If the Service, TNC, other Cooperators, or an enrolled property owner determine that any of the anticipated changed circumstances listed below exists on an enrolled property, then the relevant enrolled landowner will implement the appropriate CCCMs, as described below, or an alternate mutually agreed-upon approach, to address the additional threat or threats created by the changed circumstance(s). If more than one CCCM is identified in this CCAA for the relevant changed circumstance, then the Service, TNC, the enrolled property owner, and any other involved Cooperators will mutually agree upon which CCCM(s) will be implemented in response to the changed circumstance. Implementation of the selected CCCM(s), or other mutually agreed-upon approach to address the changed circumstances, would contribute towards meeting the CCAA standard on the enrolled lands.

If a changed circumstance occurs on an enrolled property, then TNC will notify the Service of the affected enrolled lands, the impact of the changed circumstance, and the CCCM(s), or other mutually agreed-upon approach to address the additional threat(s) created by the changed circumstance. The Service will provide a letter of concurrence (within 30 days) to TNC approving the CCCM(s) if it determines that the CCCM(s) will allow enrolled lands to continue to meet the CCAA standard.

The following list identifies one or more Conservation Measures to address threats created by specified changed circumstances. Additional Conservation Measures or approaches not identified in this list may be developed and implemented, as described above, with landowner agreement and with approval of TNC and the Service.

Wildfire: Wildfire impacts affecting an enrolled property will be handled on a case-by-case basis. The Service will work with the individual property owners to determine the management practices to be applied, which will include one or more of the following Conservation Measures unless otherwise agreed to by the Service, TNC, the enrolled property owner, and any involved Cooperator:

CCCM 1. TNC will evaluate with the enrolled property owner the need for rehabilitation based on pre-fire plant community health, fire intensity and severity, and proximity to invasive annual grasses (e.g., field brome, cheatgrass). TNC will provide a written summary to the landowner of their evaluation and need for active rehabilitation or for natural recovery.

CCCM 2. The enrolled property owner will allow for natural vegetation recovery where healthy pre-fire plant communities existed, observed fire severity indicates natural recovery is likely, and proximity to invasive plant species is not a concern. Timing of livestock grazing following wildfire will depend upon the response of desirable vegetation. TNC and the enrolled property owner will identify and set quantifiable objectives for post-fire vegetation recovery based on pre-fire monitoring data, resuming livestock grazing once those objectives have been met.

CCCM 3. Following wildfire, the enrolled property owner will participate in rehabilitation where natural recovery is unlikely, due to fire severity or proximity to invasive species, and where feasible, practicable, and if adequate funding is available.

CCCM 4. TNC and the enrolled property owner will determine appropriate measures for the property owner to implement to prevent or control invasive and noxious plant species.

CCCM 5. TNC will conduct post-treatment monitoring to determine if rehabilitation techniques have been successful or if implementation changes are indicated.

CCCM 6. The enrolled property owner will replace fence or temporarily fence areas if necessary to protect recovering post-fire vegetation, and, where appropriate, mark these fences with anti-strike markers or other agreed-upon visual markers as described in the relevant Conservation Measures of this Programmatic CCAA.

Drought: Below normal precipitation affects the productivity and reproductive capacity of rangeland plants. When drought conditions exist, annual monitoring will be used to determine site-specific recommendations. Drought is site specific and is typically considered to occur when two growing seasons of precipitation are below the long-term average, affecting plant life cycles. Prolonged drought occurs when the conditions described above persist for three or more growing seasons.

Variation in annual precipitation is common throughout the range of the Covered Species. Annual rangeland monitoring and Conservation Measures on enrolled lands are expected to address year-to-year variations in precipitation. Drought occurring in important sage-grouse and/or declining grassland songbird habitats may create conditions that reduce seasonally available habitat, resulting in changed circumstances. In some instances, failure to make timely adjustments in livestock use during drought can result in reductions in plant growth and soil moisture (Thurrow and Taylor 1999).

In the event of moderate to extreme drought, as determined by National Oceanic and Atmospheric Administration (<http://www.ncdc.noaa.gov/sotc/drought/>), or if annual monitoring indicates drought conditions, TNC will meet with enrolled landowners to evaluate the drought conditions affecting sage-grouse and/or declining grassland songbird habitats on their enrolled properties. The following CCCM is intended to address this changed circumstance:

CCCM 7. Use adaptive management to adjust levels and season of livestock grazing during drought conditions to maintain suitable sage-grouse and/or grassland songbird habitat using the site-specific conditions as determined in the baseline and subsequent trend monitoring. These adaptive management measures will include one or more of the following, as mutually agreed upon:

- a. Implement management changes, such as grazing rest, deferment (delay of grazing to achieve a specific management objective), rotation, or other changes designed to maintain long-term vegetation health for sage-grouse and/or grassland songbird habitats.
- b. Develop new or use existing grassbanks during drought conditions.
- c. Develop additional water sources for livestock, ensuring that these are fitted with escape ramps, etc. as appropriate.
- d. Employ other vegetation management as part of a site-specific grazing plan to ensure long-term plant community health.

West Nile virus (WNV): West Nile virus (WNV) was first observed in Montana sage-grouse populations in 2003 (Moynahan et al. 2006). Low-level WNV-related mortality likely occurs annually; however, outbreaks can result in significant local population declines (Walker and Naugle 2011, Foster et al. 2014). Major outbreaks occurred across several Montana core areas in 2003 (Moynahan et al. 2006; Walker 2008) and 2007 (Tack 2009, Foster et al. 2014). Low and mid-elevation populations are most susceptible to the disease (Naugle et al. 2004). The risk of infection increases with the amount of standing surface water, particularly in late summer (Naugle et al. 2004). Peak WNV-related mortality is observed in July and August (Walker et al. 2007). Sage-grouse show little to no resistance to WNV, and mortality is high (Walker and Naugle 2011).

WNV-related mortality has not been recorded in the four covered grassland songbird species (Center for Disease Control 2012).

If a WNV outbreak occurs, as identified by state health officials or other appropriate regulatory agency, then the enrolled property owner will implement the following CCCMs, as mutually agreed upon:

CCCM 8: Report observations of dead or sick sage-grouse or other bird deaths that could be attributed to disease or parasites to the Service or TNC within 48 hours.

CCCM 9: Cooperate with responsible agencies to implement feasible mosquito control, which may include:

- a. Minimize unnecessary standing water that could provide mosquito breeding habitat within the enrolled property
- b. Use larvicides in areas that mosquito habitat cannot be reduced
- c. Evaluate the effectiveness of spraying for adult mosquitoes, and consider using mosquito control measures

Habitat fragmentation and disturbance resulting from development not controlled by the enrollee: One of the conditions required of all property owners enrolling in this Programmatic CCAA is that they maintain contiguous habitat by not undertaking new activities on enrolled lands that would result in habitat fragmentation, including development (Section 3.2.1). The Service and TNC acknowledge that the ability of property owners to control energy development on split-estate properties or projects with the ability to exert eminent domain may be limited by the willingness of developers to work with them voluntarily to avoid and minimize potential impacts to the Covered Species and their habitats. However, on state and private lands in Montana, such developers will be subject to the provisions of EO 12-2015 where state authorization is required in sage-grouse core, connectivity, or general habitats. Impacts to sage-grouse and declining grassland songbirds from such development can include both direct loss of habitat and reduced habitat quality as a result of fragmentation due to roads, pipelines, power lines, and other infrastructure. Accompanying noise disturbance can also reduce lek attendance and nesting success.

In the event of energy or other development that is not under the property owner's control on lands enrolled under this Programmatic CCAA, the Service and TNC will evaluate the compatibility of the development with the goals of the CI. If not compatible, the Service and TNC will work with enrolled property owners to determine if modifications or additional Conservation Measures are needed to address the impacts of this development. Conservation Measures that an enrolled property owner will undertake, to the extent feasible, to address impacts from development include, but are not limited to:

CCCM 10. Negotiate an agreement and development plan in cooperation with the outside developer to avoid or minimize surface disturbing activities. For activities proposed in sage-grouse habitat, this includes compliance with EO 12-2015, specifically stipulations detailed in Attachment D of EO 12-2015. For activities proposed in declining grassland songbird habitat, this includes taking whatever measures are available and feasible to ensure that new infrastructure is not built within native grasslands.

Any changes or additions to Conservation Measures, beyond CCCM 10 above, will be mutually agreed upon by enrolled property owners, TNC, and the Service.

Catastrophic Flooding: Excessive runoff resulting from catastrophic hydrologic events (e.g., rain on snow event) is associated with mass-wasting of hillslopes, damage to river banks, and downstream flooding. These events can drastically change stream hydrology and vegetative composition of riparian corridors. These events are often associated with a 100-year flood cycle. In response to this changed circumstance, the enrolled property owner, in consultation with the Service and TNC, will:

CCCM 11. Use adaptive management based on evaluation of degree of flood impact. Adjust levels and season of livestock grazing after a catastrophic flood event to maintain and/or rehabilitate suitable sage-grouse habitat.

CCCM 12. Re-evaluate stream segments to identify critical areas and changes in ecological state and identify measures that could enhance stream function.

3.4. Unforeseen Circumstances

Unforeseen circumstances are those changes in circumstances affecting the Covered Species and their habitats in this CCAA's covered area that could not have been reasonably anticipated at the time of the CCAA's development, and that result in a substantial and adverse change in the status of the any of the Covered Species. If additional Conservation Measures are necessary to respond to unforeseen circumstances with respect to a CI, then the Service will work with the enrolled property owner to determine what additional Conservation Measures or modifications would be appropriate to address the circumstance. However, implementation of additional Conservation Measures or modifications to address unforeseen circumstances would be based solely upon willing agreement by the enrolled property owner. Additional Conservation Measures will not require the commitment of additional land resources, water resources, financial compensation, or additional restrictions on the use of land, water, or other natural resources, beyond the level otherwise agreed upon in this CCAA and the relevant CI, without the consent of the enrolled property owner(s).

4. MONITORING AND ADAPTIVE MANAGEMENT

Both compliance monitoring and effectiveness monitoring will be conducted to determine if each Certificate of Inclusion (CI) under this Programmatic CCAA is meeting the identified conservation objectives. Compliance monitoring will determine if a CI is being properly implemented in accordance with its requirements as well as track any incidental take of sage-grouse and/or declining grassland songbirds. Effectiveness monitoring (also called biological monitoring) will determine how sage-grouse and/or declining grassland songbird habitats and

populations are responding to the Conservation Measures implemented on the enrolled property and whether these measures are meeting the objectives described in the CI.

Each CI under this Programmatic CCAA will describe the required monitoring for each Conservation Measure for the enrolled property consistent with Sections 4.1-4.3, below. CCAA cooperators and enrolled property owners will conduct monitoring according to the details outlined in CIs, which describe what is to be measured, metrics to be used, timing of monitoring, and other appropriate elements.

The Service or TNC may access properties enrolled in this CCAA, after reasonable notice is given to the enrolled property owner, to conduct compliance and effectiveness monitoring. Reasonable notice is at least 2 weeks in advance of a visit and will be specified as agreed upon in the CI. Property owners will also be notified at least 2 weeks in advance with the specific time, location, and names of all personnel entering the property for monitoring purposes.

4.1. Compliance Monitoring

The purposes of compliance monitoring are to demonstrate that the Conservation Measures agreed upon in the CCAA are being implemented, and to track and report any incidental take of the Covered Species. Each enrolled property owner is responsible for reporting on compliance with the provisions of individual CIs. Compliance monitoring will require information indicating which Conservation Measures were implemented, when and where the Conservation Measures were implemented, and whether any lethal take of the Covered Species was observed while performing a covered activity. Any observed mortalities of the Covered Species should be reported to TNC and the Service within 48 hours. TNC will provide the enrolled property owner with a reporting form (see Appendix D). The enrolled property owner will complete and submit annual compliance monitoring reports to TNC throughout the duration of the Permit, unless a different reporting schedule is provided in the relevant CI.

4.2. Effectiveness Monitoring

The purposes of effectiveness monitoring are to collect data on populations and habitats of the Covered Species and to understand the conservation value of implementing the agreed upon Conservation Measures. Progress towards meeting conservation objectives will be evaluated based on maintaining suitable habitat or by improving habitats for the Covered Species. Progress may also be assessed by maintaining stable or increasing populations of the Covered Species over time. TNC, in cooperation with the property owner, will conduct an initial baseline assessment to assess current conditions and identify specific habitat types on the enrolled property. Data from the initial baseline assessment will be used to inform the site-specific monitoring plan.

Although effectiveness monitoring data will provide information regarding changes in habitats or populations over time (i.e., increasing/improving, stable, or declining), the data collected

during effectiveness monitoring are not of the type and intensity necessary to identify the factors causing these changes. A number of factors affecting habitats and populations of the Covered Species are beyond the control of the property owner (e.g., precipitation patterns, climate change, development on adjacent lands, etc.). Although we anticipate that the implementation of Conservation Measures will result in a net conservation benefit for the Covered Species and their habitats, it is unlikely that detectable, cause-effect relationships between specific vegetation and/or population changes and the Conservation Measures implemented on an individual property will be determined through effectiveness monitoring.

Ranch management, grazing practices, and agricultural activities currently employed by enrolled property owners likely result in one of two general conditions: *(1) properties provide suitable habitat for the Covered Species; or (2) properties have the potential to provide suitable habitat, and substantial opportunities exist to restore, improve, and enhance those habitats through the implementation of Conservation Measures included in this Programmatic CCAA.* Information gathered during the initial baseline assessment will assist in determining which of these two conditions apply.

The overall conservation goal is to maintain or facilitate transition towards suitable habitat for the Covered Species. For properties currently providing suitable habitat for the Covered Species, the goal will be to maintain or, in some cases, improve these habitat conditions. For properties with the potential to provide suitable habitats for the Covered Species, the goal will be to improve habitats for the Covered Species through implementation of the agreed upon Conservation Measures.

For the purposes of this CCAA, suitable habitat will be determined through the use of state and transition models (STMs; Chambers et al. 2016). STMs can be used to understand and predict potential changes in vegetation and to identify the factors, both natural and human-caused, that drive those changes (Holmes and Miller 2010). Changes in plant community structure and composition can have an important influence on bird habitats (Aldridge and Brigham 2002, Holloran et al. 2005, Davis et al. 2013, Lipsey and Naugle 2017). STMs provide information that can predict the impacts of various management actions on vegetation structure and composition and can inform the selection of appropriate Conservation Measures.

STMs represent alternative potential vegetation states, and the processes that cause shifts within states and transitions among states. States represent a related set of plant communities (community phases) and their corresponding soil properties that produce persistent functional and structural attributes. Community phases represent the inherent variability within each state, and these dynamics can be driven by both natural and human-caused processes (Briske et al. 2008). Ecological processes and/or management actions that contribute to a loss of resilience trigger a transition to alternative states.

Generalized STMs have been developed as part of the Science Framework for the Conservation and Restoration Strategy developed under Department of Interior Secretarial Order 3336 (Chambers et al. 2016; Appendix E) to represent vegetation states and ecosystem dynamics at

ecologically relevant scales (Major Land Resource Areas [MLRA]; Figure 11). These generalized STMs characterize management and habitat issues that are common across ecological sites within an MLRA, and as such do not represent specific vegetation composition and structural characteristics found on-the-ground. A focus on maintaining or restoring habitats based on these generalized STMs allows for determination of whether suitable habitats are being maintained or if sites are transitioning to lower quality habitats. Although the Covered Species occur throughout most of the MLRAs in Montana, they are distributed primarily in MLRAs 52X, 58A, 60B, and 43B. Where available, ecological site descriptions (ESDs) will allow for refinement of these generalized vegetation dynamics to on-the-ground conditions.

Habitat suitability will be assessed relative to the reference state. The reference state and associated community phases represent the ecological potential and historical range of variability due to vegetation successional dynamics or natural disturbance processes (Caudle et al. 2013). The reference state represents the conditions under which ecosystem functions (e.g., soil stability, hydrologic function, biotic integrity) are performing at optimum levels (Pellant et al. 2005). For these monitoring purposes, it is assumed that high integrity rangelands in the reference state directly relate to suitable habitats for the Covered Species (Boyd et al. 2014).

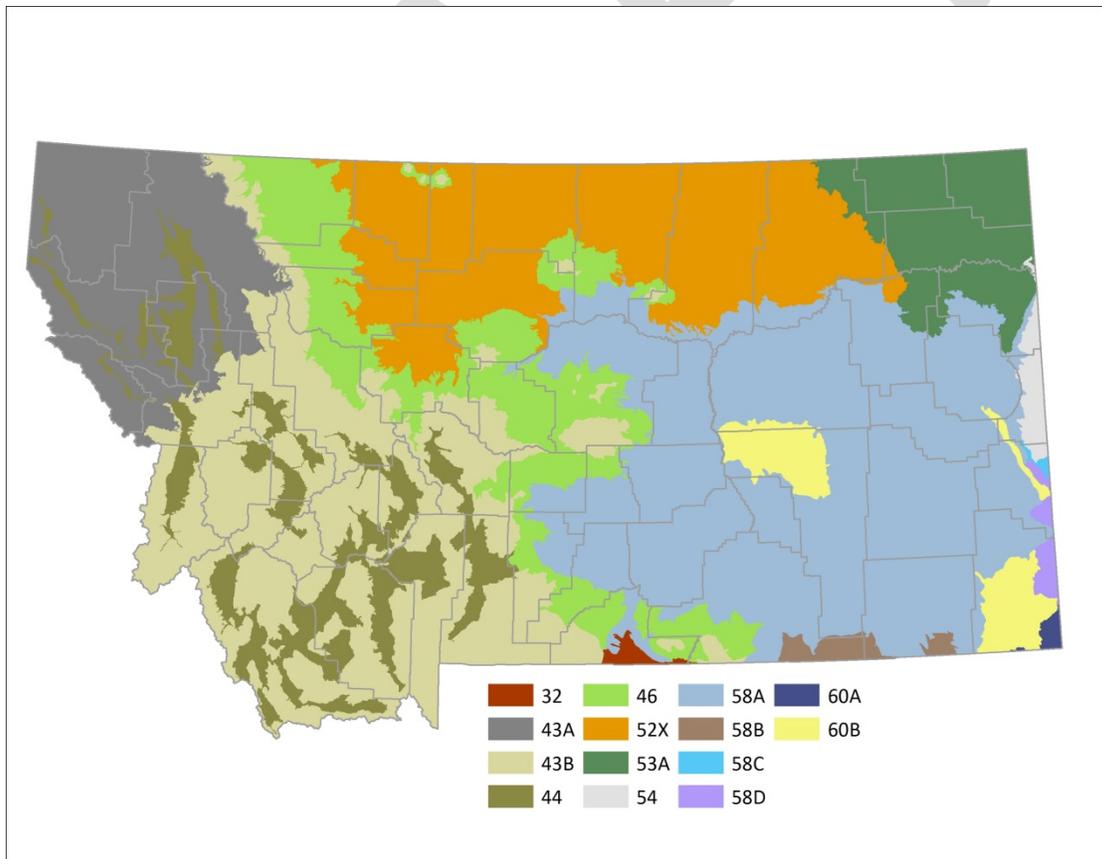


Figure 11. Major Land Resource Areas (MLRAs) in Montana, as designated by the NRCS.

Bird response to local-scale vegetation characteristics is closely tied to features in the surrounding landscape (Winter et al. 2006, Ribic et al. 2009, Baruch-Mordo et al. 2013, Lipsey

and Naugle 2017, Smith et al. 2016). Conservation practices implemented on individual properties will, in part, depend upon the surrounding landscape conditions. Thus, some flexibility in both management and the application of specific habitat guidelines will be necessary. Vegetation features important to the Covered Species such as cover and structure can vary considerably within and between growing seasons. Measures of range condition can also serve as indicators of habitat suitability for the Covered Species (Boyd et al. 2014, Davis et al. 2014b, Henderson and Davis 2014) and are less variable over short time periods (Bai et al. 2001). Habitat monitoring will consist of measures of both vegetation and range condition. Monitoring will be stratified by pasture, with efforts focused on the dominant ecological sites in each pasture. Additionally, we will target monitoring towards more productive ecological sites where livestock tend to concentrate grazing use (Bailey et al. 1996). Examples of vegetation characteristics important to the Covered Species, as well as indicators of rangeland condition, are included in Table 4. These vegetation characteristics and indicators of rangeland condition represent variables that could potentially be incorporated into the effectiveness monitoring portion of a site-specific land management plan. The selection of specific vegetation characteristics to be measured on an individual property will be determined during the initial baseline assessment and further detailed in the site-specific management plan. Collection of range condition indicators will occur on all enrolled properties. Sample field data forms are located in Appendix F.

Table 4. Potential vegetation characteristics and indicators of range condition and associated metric descriptions for monitoring habitats of the Covered Species (Fisher and Davis 2010, Henderson and Davis 2014, Davis et al. 2014b, Stiver et al. 2015).

Bird Habitat			
Vegetation Characteristic	Metric Description	Bird Species/Group	Level of Monitoring*
Perennial grass height [†]	Average maximum height (droop height); collected by plant functional group	All Covered Species	Periodic
Perennial grass foliar cover [†]	Average percent foliar cover of perennial grasses by functional group	All Covered Species	Periodic
Percent residual cover [†]	Average percent cover of residual cover from previous years	All Covered Species	Periodic
Vegetation volume [†]	Average volume of herbaceous vegetation	Grassland songbirds	Periodic
Percent bare ground [†]	Average percent bare ground (surface not covered by vegetation, rock, litter, lichen, or clubmoss)	All Covered Species	Periodic
Percent litter cover [†]	Average percent cover of litter (detached vegetation on the soil surface)	All Covered Species	Periodic
Litter depth [†]	Average litter depth	Grassland songbirds	Periodic

Table 4. continued

Vegetation Characteristic	Metric Description	Bird Species/Group	Level of Monitoring*
Vertical vegetation density [€]	Mean of the total number of contacts of herbaceous vegetation on a vertical rod every 10 cm	Grassland songbirds	Periodic
Sagebrush canopy cover [‡]	Average percent canopy cover of sagebrush	Sage-grouse	Periodic
Sagebrush height [‡]	Average sagebrush height	Sage-grouse	Periodic
Riparian assessment [‡]	Assessment of stability and sustainability of riparian habitats	Sage-grouse	Periodic
Rangeland Condition			
Indicator	Description	Bird Species/Group	Level of Monitoring*
Similarity index [§]	Percentage by weight of reference state vegetation present on the site; by species or functional group	All Covered Species	Periodic
Rangeland trend [£]	Direction of change in an existing plant community relative to the reference state	All Covered Species	Annual
Photo point [‡]	An identified point from which photographs are taken annually to monitor changes in vegetation	All Covered Species	Annual

* The schedule for periodic habitat monitoring will be detailed in the site-specific plan but will occur no less than once every 5 years.

[‡]Following methods in Herrick et al. 2009, 2016

[§]Following methods in Coulloudon et al. 1999

[‡]NRCS Riparian Assessment Method 2012

[€]Following methods in Hendricks et al. 2007

[£]Following methods in Butler et al. 2003

Initial Baseline Assessment

The initial baseline assessment will identify current conditions on the enrolled property. For sage-grouse, this includes the identification of lekking, nesting, brood-rearing, and wintering habitats. For the covered grassland songbirds, this includes determining which species are present and potentially breeding on the enrolled property, and the identification of suitable nesting habitats.

As part of the initial baseline assessment, cooperator biologists from TNC and the Service will confirm the presence of habitats for the Covered Species on the enrolled property. TNC and the Service will cooperate with the property owner to establish appropriate habitat monitoring locations. TNC and the Service will also work with the property owner to implement a compliance and effectiveness monitoring program within 18 months of enrollment in the CCAA.

Information collected during the initial baseline assessment will include at a minimum:

1. Description of the enrolled property. This description should include a legal description, acreage, elevation, and precipitation zone. A map of the enrolled property should also be included depicting (a) suitable or potentially suitable habitats for the Covered Species; (b) non-suitable habitats (e.g., cultivated croplands, ranch headquarters and associated buildings, etc.); (c) anthropogenic features; (d) livestock management; (e) known sage-grouse seasonal habitats, including leks; and (f) potential grassland songbird habitats.

a. *Suitable/potentially suitable habitats:* Map the major vegetation types including: (1) sagebrush (identified to species or subspecies); (2) native grasslands; (3) shrublands dominated by species other than sagebrush; (4) tame pasture; (5) wetlands and/or riparian areas; and (6) woodlands/forests. Where possible, major ecological sites should also be mapped within each grazing unit/pasture.

b. *Non-suitable habitats:*

- Cultivated cropland
- Envelope encompassing the ranch headquarters and associated buildings, including corrals and other ranch structures

c. *Anthropogenic features, including but not limited to the following:*

- Roads (describe level of improvement-e.g., gravel, two-track, etc. with a focus on primary ranch roads)
- Fences
- Power lines, substations, communications towers, pump stations, and similar features

d. *Livestock management:*

- Grazing unit/pasture with names and acres
- Livestock watering facilities
- Livestock mineral supplement and feeding areas
- Major livestock concentration areas (e.g., corrals, etc.)

e. *Existing sage-grouse habitat conditions and areas of use (where applicable):*

- Leks
- Seasonal habitats (nesting, brood-rearing, winter)
- State-designated core, connectivity, and general habitats occurring on the enrolled property

f. *Declining grassland songbird occurrence and habitats*

- List the covered grassland songbird species identified on the enrolled property

- Identify potential grassland songbird habitats (based on ecological site and site potential)

2. Livestock grazing management. Describe livestock grazing and forage management on the enrolled property. If a grazing management plan is currently in use, the plan should be attached to the initial baseline assessment. If no plan is currently in use, then describe the basic elements of the livestock grazing operation, including:

a. *Pasture/Grazing unit use information*: include (1) species of livestock; (2) season of use (on/off dates); (3) number of animals; and (4) dominant vegetation types.

b. *Other ranch management actions*: describe any historic, current, or planned actions such as weed control, prescribed burning, mechanical vegetation treatments, revegetation, etc.

3. Objectives for the enrolled property. Identify the current conditions on the enrolled property, either: (a) properties provide suitable habitats for the Covered Species; or (b) properties have the potential to provide suitable habitats, and substantial opportunities exist to restore, improve, and enhance those habitats through the implementation of Conservation Measures.

4. Sage-grouse use (where applicable). Include a narrative describing the number and general locations of sage-grouse using the enrolled property.

5. Ranching and agricultural operations affecting the Covered Species. Identify current practices with the potential to influence (either positively or negatively) the Covered Species or their habitats. Specifically, describe practices or activities that relate directly to Conservation Measures agreed to during the application process.

Annual and Periodic Effectiveness Monitoring

Once the current conditions on the enrolled property have been determined through the initial baseline assessment, TNC, the Service, and the enrolled property owner will conduct both annual and periodic monitoring to gather information regarding how these conditions change or are maintained over time. Sage-grouse leks will be monitored annually on enrolled properties with active leks. Populations of grassland birds will be monitored periodically due to the higher level of effort necessary to effectively monitor these species. For example, any enrolled property containing potential habitats for the declining grassland songbirds would require establishment of survey transects. Additionally, correct identification of the covered grassland songbirds can be difficult, requiring an increased level of skill for observers. The frequency and intensity of periodic monitoring will be determined and agreed to by the enrolled property owner, TNC, and the Service, and will depend upon the conditions of the property as determined by the initial baseline assessment. Periodic habitat monitoring will occur no less than once every 5 years.

Effectiveness monitoring will be the responsibility of TNC with assistance from the enrolled property owner as agreed upon in the relevant CI, and from the Service as needed. TNC and the Service are responsible for evaluating effectiveness monitoring reports submitted by the enrolled property owner. Annual reporting will provide information that will be used to understand the relationship between current management on the property and existing habitat conditions (Appendix G).

Effectiveness monitoring on enrolled properties will include:

1. Annual monitoring of rangelands for noxious or invasive weeds, especially on areas of disturbed soils, to enable early detection and control of undesirable species before they become established. This includes documenting these surveys (e.g., survey date, length of survey route, location of survey route) in an annual report.
2. Recording dates, locations, and numbers of sage-grouse observed on the enrolled property, where applicable. Information will be provided in annual monitoring reports.
3. Annual documentation of livestock grazing management. This includes information for each pasture on season of use, on/off dates, stocking rates, and dominant vegetation/habitat.
4. Annual monitoring of active sage-grouse leks following protocols established by Montana Fish, Wildlife, and Parks (MFWP), where applicable. Monitoring will be conducted by a qualified agency, entity, or landowner (e.g., FWP, BLM, the Service, TNC and enrolled property owners trained in standardized lek monitoring protocols).
5. Periodic monitoring of declining grassland songbird populations, where applicable, conducted by the Service and/or TNC.
6. Annual collection of established photo points to qualitatively monitor vegetation changes over time.
7. Annual assessment of rangeland trend (NRCS 2003) to determine the direction of change in the existing plant community relative to the reference state.
8. Periodic monitoring of multiple habitat indicators (Table 4; Appendix G).

4.3. Evaluation and Adaptive Management

The results of monitoring efforts will be considered from an adaptive management perspective. Many of the potential Conservation Measures have been successfully implemented as part of other conservation efforts. However, outcomes of a few Conservation Measures may vary based on local site conditions. Specifically, the effectiveness of Conservation Measures related to livestock grazing and vegetation restoration will strongly depend on local soil type and climatic conditions, such as precipitation timing and amount. For these Conservation Measures, careful monitoring both before and after implementation, along with the flexibility provided through adaptive management, will maximize the likelihood that conservation objectives are met.

An adaptive, outcome-based approach (Walters 1986) will be applied to allow for management flexibility if Conservation Measures need to be updated based on changing conditions or new

information. Such an adaptive approach explicitly recognizes that multiple factors (environmental conditions, biological processes) affect habitats and populations of the Covered Species. Thus, the consequences of prescriptive Conservation Measures cannot be predicted with certainty. Therefore, this CCAA provides a framework for making objective decisions in the face of uncertainty. If the expected results of a Conservation Measure (including a CCCM as described in section 4.3) are not achieved, then the Conservation Measure is either modified or an alternative Conservation Measure is developed to achieve the stated objectives, with mutual agreement among the Cooperators, including the enrolled property owner whose CI obligations would be affected by the modified or alternative Conservation Measure. Adaptive management relies upon an iterative cycle of monitoring, assessment, and necessary adjustments to Conservation Measures to achieve the desired responses of habitat populations of sage-grouse and declining grassland songbirds. Additionally, the scale of management is an important consideration, as management efforts implemented locally may be misplaced if the surrounding landscape is unsuitable (Doherty et al. 2010b, Lipsey 2015).

5. ANTICIPATED EFFECTS

5.1. Anticipated Types and Amount of Take

Take of the Covered Species may occur as a result of the covered activities or implementation of Conservation Measures described under this Programmatic CCAA. Take that results from, but is not the purpose of, carrying out an otherwise lawful activity is known as incidental take. Incidental take will likely occur sporadically on enrolled lands and is not expected to nullify the conservation benefits that are described under this Programmatic CCAA. The Permit issued by the Service to TNC authorizes incidental take of the Covered Species as a result of the covered activities or implementation of Conservation Measures on the enrolled properties.

Types of Incidental Take

We considered three primary types of incidental take related to this Programmatic CCAA: (1) injury or death; (2) harm in the form of habitat fragmentation, loss, or degradation; and (3) harassment in the form of human activities that significantly disrupt normal behavioral patterns such as breeding, feeding, or sheltering. For each type of take we describe the associated Conservation Measures that will avoid or minimize the take.

Injury or death

- Haying and other farming operations that use heavy equipment can directly kill or injure adult and juvenile sage-grouse and/or declining grassland songbirds. These operations can be particularly detrimental to brooding females and their young or eggs. If only the female is killed or injured, any young or eggs are likely to die due to lack of parental care. Field margins with nearby sagebrush or native grassland habitat may be used for nesting and foraging. These potential impacts will be avoided or minimized by implementation of practices such as restricting haying and mowing dates to avoid nesting and brooding birds, and employing wildlife friendly haying methods. (**Conservation Measures: 4.1, 4.2, and 4.3**)

- Fences used for livestock management, especially those in certain high-risk locations for collision, can cause direct mortality to sage-grouse and other low-flying birds (Beck and Mitchell 2000; Connelly et al. 2004; Crawford et al. 2004; Cagney et al. 2010). The risk of collision with fences will be avoided or minimized by removing unnecessary fences and marking fences in high-risk locations to make them more visible to sage-grouse and other birds. Fences also serve as perches for avian predators. Existing fences will be modified to discourage perching by avian predators, or removed if no longer needed. **(Conservation Measures: 9.1, 9.2, and 9.3)**
- Vertical structures such as telephone and power lines and poles serve as raptor perches and can indirectly contribute to injury and death to sage-grouse and other birds from avian predators. This risk will be avoided or minimized by removing unnecessary structures, burying power lines underground where feasible, and limiting new construction in sagebrush and grassland habitats. **(Conservation Measures: 8.1, 8.2, 8.3, and 8.5)**
- Sage-grouse and other birds can drown in livestock water tanks when using them as a water source. This risk will be avoided or minimized by properly equipping stock tanks with escape ramps. Associated infrastructure can serve as perches for avian predators. Any unnecessary infrastructure will be removed. **(Conservation Measures: 5.1, 5.2, 5.4)**

Harm

- Range management structures, buildings, fences, power lines, and other infrastructure including roads associated with ranch operations are likely to decrease habitat quantity and/or quality. Any actions of this type will be carefully designed to avoid or minimize impacts and are required to meet the CCAA standard and meet the objectives of the required Conservation Measure(s) to avoid fragmenting habitat. **(Conservation Measures: 1.1, 5.2, 5.4, 5.5, 8.1, 8.2, 8.3, 8.5, 9.1, 9.2, 11.1, 11.2, 11.3, 11.4, 11.5)**
- Livestock grazing, when managed inconsistently with the needs of the Covered Species, can decrease cover of beneficial grasses and forbs in nesting and brood-rearing habitats (Dechant et al. 2002b, Hagen et al. 2007; Wiggins 2006). Several Conservation Measures in this CCAA address impacts of such livestock grazing, and landowners will be required to modify grazing practices if livestock grazing management on enrolled properties is inconsistent with the needs of the Covered Species. This risk will be further minimized with annual monitoring and reporting of livestock utilization of enrolled lands, as well as adapting to drought and other environmental factors that may affect forage availability. **(Conservation Measures: 2.1, 2.2, 2.4, 2.5, 2.6, 2.7, 2.8)**
- Mesic resources such as wetlands and riparian areas provide critical brood-rearing habitat for sage-grouse (Donnelly et al. 2016); however, livestock grazing can have detrimental impacts to these sensitive habitats. These impacts will be minimized by managing livestock grazing to protect wetland and riparian habitats and restoring habitats as needed. **(Conservation Measures: 1.3, 2.4, 2.5, 2.6, 2.12, 5.6)**
- Application of insecticides can reduce insect availability during the breeding season for both adults and young of the Covered Species. This threat will be reduced by establishing no-treatment buffers, avoiding use of insecticides during the breeding season, and an integrated pest management approach. **(Conservation Measures: 10.1, 10.2, 10.3)**

Harassment

- Due to seasonal accessibility or weather-related issues, rangeland treatments such as conifer or woody planting removal may need to be conducted when the Covered Species are nesting or otherwise using these areas. If so, this would cause some temporary harassment of these species. However, without treatment, these habitats become degraded or unsuitable for the Covered Species. Harassment will be minimized through careful scheduling of treatments. **(Conservation Measure: 6.6)**
- Farm operations, through the use of heavy equipment and vehicles or noise from generators or windmill powered pumps or other means, may cause short-term disturbances to the Covered Species. In the case of ongoing noise associated with frequent activities, it may cause the Covered Species to avoid using otherwise suitable habitat. These impacts are expected to be fairly localized, as birds near the margins of fields can retreat to adjacent sagebrush/grasslands. **(Conservation Measure: 2.11)**
- Recreational activities can negatively impact the abundance and composition of songbirds (Miller et al. 1998, Barton and Holmes 2007) and result in both direct and indirect disturbance to sage-grouse (USFWS 2013). This risk will be minimized by limiting recreational OHV use in habitats for the Covered Species as well as recreational access during certain times of the year when sage-grouse are using enrolled lands (e.g., lekking, wintering, or brood-rearing). **(Conservation Measures: 12.1, 12.2, 12.3, 12.4, 12.5)**
- Development activities associated with construction of new buildings, fences, power lines, and roads for ranch operations can cause harassment of the Covered Species. Proper siting and timing of construction can minimize risk of disturbance from these activities. **(Conservation Measures: 5.5, 8.5, 9.1, 9.3).**

5.2. Adverse Impacts Not Rising to the Level of Take

Livestock management activities such as feeding, calving, and herding of livestock may cause the Covered Species to flush a short distance or otherwise disrupt their behavior. However, in the majority of instances this disturbance is expected to be very short in duration such that it does not rise to the level of take. **(Conservation Measures: 2.9, 2.10, 2.11, 2.12)**

5.3. Take Estimate

Incidental take of the Covered Species is authorized under the Permit issued to TNC. The Permit provides for a specific amount of take for each of the Covered Species and goes into effect for a particular species if it becomes listed under the ESA. *The amount of authorized incidental take for each of the Covered Species is based on the assumption that all privately owned lands within potential habitats for the Covered Species are enrolled in the CCAA.* If less than 100% of the covered area is enrolled, then the amount of authorized take will be proportionally less than shown in Tables 5 and 6. If any of the Covered Species becomes listed, then take for that species will be authorized by the Permit based on the amount of acres enrolled in the CCAA through approved CIs at the time of listing. The total amount of take

authorized under the Permit will be based on the amount of acres enrolled and will not exceed the amount of take described here.

5.3.1. Declining Grassland Songbird Population Estimate:

We obtained density estimates from the Bird Conservancy of the Rockies (2015) for the years 2010-2015 (Table 2). See Appendix F for a list of data sources used. The following steps were taken to develop population estimates for each of the covered grassland songbird species.

- To estimate the population for each songbird species within privately owned grasslands, we multiplied the density estimate (number of birds per km²) x area (km²) of grasslands on private lands within the species breeding range.
- To estimate the population for each songbird within privately owned non-irrigated hay lands and irrigated lands, we multiplied the density estimate (number of birds per km²) x area (km²) of non-irrigated hay land and irrigated land occurring on private lands within the species breeding range.
- These two population estimates were summed to obtain an overall population estimate for each covered songbird species in the covered area for the years 2010-2015. ***Population estimates assume that birds are evenly distributed throughout native grasslands and non-irrigated hay lands/irrigated lands within their respective breeding ranges.***
- Take calculations (Table 5) were based on the six-year (2010-2015) population average.

Information used to calculate take percentages:

Livestock Management: We used values from a synthesis of the literature by Bleho et al. (2014) for nest abandonment or nest trampling associated with livestock grazing to calculate take percentages associated with livestock management. Three of 118 (2.5%) Baird's sparrow nests; 3 of 469 (0.6%) chestnut-collared longspur nests; and 6 of 345 (1.7%) Sprague's nests failed due to trampling by cattle. McCown's longspur had no recorded nests lost to trampling. For the purposes of calculating a take percentage, the rate of mortality due to trampling for chestnut-collared longspur was used as a surrogate for McCown's longspur. We assumed that all females (50% of the population assuming a 1:1 sex ratio) would be exposed to this risk.

We assumed that the area impacted by livestock management was the entire covered area composed of native grassland within the breeding range of each grassland bird species on privately owned lands in Montana. Area of native grassland (classified by ecological system) was derived from the Montana Land Cover Framework (MTNHP 2013). The native grassland layer was then clipped to the breeding range extent of each covered grassland bird species (MTNHP 2015). Finally, the area of native grassland within each species breeding range was intersected with private lands.

Haying/Mowing/Seed Harvest: We used values from a synthesis of the literature by Tews et al. (2013) for take associated with mechanical operations such as mowing and haying. Mortality rates for horned lark were used as a surrogate for chestnut-collared and McCown's longspurs,

and rates for Savannah sparrow were used as a surrogate for Sprague's pipit and Baird's sparrow. Horned lark (Beason 1995) and Savannah sparrow (Wheelwright and Rising 2008) are more frequently associated with agricultural activities and, therefore, potentially at higher risk for haying/mowing-related mortality than the four covered songbirds. However, these mortality rates allow us to calculate a conservative estimate of potential take associated with agricultural activities covered under this CCAA. The rate of mortality due to haying/mowing was estimated at 2.87% for chestnut-collared and McCown's longspurs and 5.83% for Sprague's pipit and Baird's sparrow.

We assumed that the area impacted by haying/mowing and seed harvest included all non-irrigated hay land and irrigated lands within the breeding range of each grassland bird species on privately owned lands in Montana. These areas were derived from the Montana Final Land Unit Classification (Montana Department of Revenue 2015). Non-irrigated hay land is defined as native vegetation or non-irrigated alfalfa and other domestic hay crops cut for hay annually or in most years. Irrigated land is defined as areas where water is applied to hayland or cropland to increase production. Although the irrigated land layer includes some cropland, an estimated 72 percent of irrigation water in Montana is used to produce hay (Niemi et al. 2008). These layers were then clipped to the breeding range extent of each covered grassland bird species (MTNHP 2015) and intersected with private lands spatial data.

Allowance of an additional 0.5% take within the covered area: Additional take associated with both direct and indirect effects of ranching and agricultural activities covered under this CCAA may occur; however, quantification of such take is difficult. We are providing an allowance of an additional 0.5% of each covered grassland songbird species as a result of these types of activities across all covered lands.

Examples of such activities include:

- Striking one of the Covered Species with a vehicle while a landowner or their agent is performing a covered activity, implementing a Conservation Measure, or recreating.
- Non-commercial recreational activities.
- Drowning in stock tanks fitted with escape ramps.

Table 5. Estimated take for Baird’s sparrow, chestnut-collared longspur, McCown’s longspur, and Sprague’s pipit for the entire covered area of the Montana Programmatic CCAA. Calculations assume that 100% of the covered area is enrolled in the CCAA.

Species	Management Action	Square kilometers impacted	Birds exposed	Rate of injury or mortality	Annual take
Baird's Sparrow	Livestock Management	53,159	62,728 [†]	0.0254	1,593
	Haying/Mowing	6,827	16,111	0.0583	939
	Additional authorized take		134,556	0.005	673
	Total Annual Take				3,205
	Annual Take as a Percentage of Population in Covered Area				2.3%
Chestnut-collared Longspur	Livestock Management	53,194	160,805 [†]	0.0064	1,029
	Haying/Mowing	6,751	39,266	0.0287	1,127
	Additional authorized take		331,671	0.005	1,658
	Total Annual Take				3,814
	Annual Take as a Percentage of Population in Covered Area				1.1%
McCown's Longspur	Livestock Management	57,117	55,061 [†]	0.0064	352
	Haying/Mowing	8,234	14,877	0.0287	427
	Additional authorized take		110,344	0.005	552
	Total Annual Take				1,331
	Annual Take as a Percentage of Population in Covered Area				1.1%
Sprague's Pipit	Livestock Management	53,042	22,437 [†]	0.0174	390
	Haying/Mowing	7,223	6,067	0.0583	354
	Additional authorized take		47,607	0.005	238
	Total Annual Take				982
	Annual Take as a Percentage of Population in Covered Area				1.9%

[†] Calculations for the number of birds exposed to impacts related to livestock management were made assuming only females (50% of the population assuming a 1:1 sex ratio) were exposed to the threat.

Estimates of incidental take for each of the covered grassland songbirds represent the potential annual take if all privately owned lands within potential grassland habitats are enrolled in the CCAA.

We provide two examples of estimated incidental take for an enrolled property consisting of 4.05 square kilometers (1,000 acres) of grassland habitat for Baird’s sparrow and Sprague’s pipit. In the first example, both livestock management and haying/mowing occur on the enrolled property. In the second example, only livestock management is considered.

Grassland Songbird Take Example 1.

Species	Management Action	Square kilometers impacted	Birds exposed	Rate of injury or mortality	Annual Take
Baird's sparrow	Livestock Management	3.64	4	0.0254	0.11
	Haying/Mowing	0.40	1	0.0583	0.06
	Additional authorized take		10	0.005	0.05
	Total Annual Take				0.21
	Total Take over 20-year CCAA				4
Sprague's pipit	Livestock Management	3.64	1.5	0.0254	0.04
	Haying/Mowing	0.40	0.3	0.0583	0.02
	Additional authorized take		3.4	0.005	0.02
	Total Annual Take				0.08
	Total Take over 20-year CCAA				2

Grassland Songbird Take Example 2.

Species	Management Action	Square kilometers impacted	Birds exposed	Rate of injury or mortality	Annual Take
Baird's sparrow	Livestock Management	4.05	5	0.0254	0.12
	Additional authorized take		10	0.005	0.05
	Total Annual Take				0.17
	Total Take over 20-year CCAA				3
Sprague's pipit	Livestock Management	4.05	2	0.0254	0.04
	Additional authorized take		3	0.005	0.02
	Total Annual Take				0.06
	Total Take over 20-year CCAA				1

5.3.2. Greater Sage-grouse Population Estimate:

Sage-grouse population estimates were calculated based on a 13-year average (2003-2015) of statewide lek counts following methods described in McCaffrey et al. 2016 and McCaffrey and Lukacs *in prep*. Estimates were calculated for each COT report population (Figure 5), and take calculations were estimated separately for each population (Table 6).

Information used to calculate take percentages:

Livestock Management: We used values from Rasmussen and Griner (1938) for nest abandonment and nest trampling associated with livestock grazing to calculate take percentages associated with livestock management. Five of 161 (3.1%) sage-grouse nests were abandoned as a result of disturbance by cattle, and two of 161 nests (1.2%) failed due to trampling by cattle. We assumed that all females would be exposed to this risk, assuming a sex ratio of 1.6 females to 1.0 male.

We assumed that the area impacted by livestock management was the entire covered area composed of sage-grouse core, connectivity, and general habitats on privately owned lands in Montana.

Haying/Mowing/Seed Harvest: No published data exist for take related to haying or mowing for sage-grouse. An unpublished study reported one of 105 (0.95%) marked birds killed during haying (Davis unpublished).

We assumed that the area impacted by haying/mowing and seed harvest included all non-irrigated hay land and irrigated land on privately owned lands within each population boundary. Areas of non-irrigated hay land and irrigated land were derived from the Montana Final Land Unit Classification (Montana Department of Revenue 2015).

Fences: Fences are present throughout much of the covered area, and new fences may be needed to implement grazing management on enrolled properties. Fences can pose a collision risk to sage-grouse; one study found that the relative risk of a sage-grouse striking an unmarked fence was 9.54%. Mapping the risk of fence collisions (Stevens et al. 2013) can identify moderate- and high-risk collision zones relative to sage-grouse leks. Collision-related mortalities can be reduced by 63% in these areas by marking fences located in these zones (Van Lanen et al. 2016), reducing the risk of collision to 3.53%.

Allowance of an additional 0.5% take within the covered area: Additional take associated with both direct and indirect effects of ranching and agricultural activities covered under this CCAA may occur; however, quantification of such take is difficult. We are providing an allowance of an additional 0.5% take for sage-grouse as a result of these types of activities across all covered lands.

Examples of such activities include:

- Striking one of the Covered Species with a vehicle while a landowner or their agent is performing a covered activity, implementing a Conservation Measure, or recreating.
- Non-commercial recreational activities.
- Drowning in stock tanks fitted with escape ramps.

Table 6. Square kilometers impacted, number of birds exposed, and annual take estimates for activities related to ranching/agricultural activities covered under the Montana Programmatic CCAA. Take estimate applies to core and general sage-grouse habitat (as delineated in the Montana EO) and non-irrigated haylands and irrigated lands within individual COT report population boundaries.

Sage-grouse Population	Threat [‡]	Square kilometers impacted	Birds exposed [§]	Rate of injury or mortality	Annual Take [†]
Northern Montana	Livestock Grazing Management Inconsistent with the Needs of the Covered Species				
	Nest Abandonment	28,679	8,952*	0.0311	278
	Nest Trampling	28,679	8,952*	0.0124	111
	Haying/Mowing	863	438	0.0095	4
	Fences		14,547	0.0353	514
	Additional Authorized Take		14,547	0.005	73
	Total Annual Take				980
	Annual Take Based on Proportion on Private Lands within COT Population Boundary (46%)				446
	Annual Take as a Percentage of Population in Covered Area				3.1%
	Belt	Livestock Grazing Management Inconsistent with the Needs of the Covered Species			
Nest Abandonment		1,808	258*	0.0311	8
Nest Trampling		1,808	258*	0.0124	3
Haying/Mowing		211	49	0.0095	1
Fences			420	0.0353	15
Additional Authorized Take			420	0.005	2
Total Annual Take					29
Annual Take Based on Proportion on Private Lands within COT Population Boundary (91%)					26
Annual Take as a Percentage of Population in Covered Area				6.2%	
Powder River Basin	Livestock Grazing Management Inconsistent with the Needs of the Covered Species				
	Nest Abandonment	1,489	608*	0.0311	19
	Nest Trampling	1,489	608*	0.0124	8
	Haying/Mowing	217	144	0.0095	1
	Fences		989	0.0353	35
	Additional Authorized Take		989	0.005	5
	Total Annual Take				68
	Annual Take Based on Proportion on Private Lands within COT Population Boundary (80%)				54
Annual Take as a Percentage of Population in Covered Area				5.5%	

Sage-grouse Population	Threat [‡]	Square kilometers impacted	Birds exposed [§]	Rate of injury or mortality	Annual Take [†]
Southwest Montana	Livestock Grazing Management Inconsistent with the Needs of the Covered Species				
	Nest Abandonment	9,046	3,338*	0.0311	104
	Nest Trampling	9,046	3,338*	0.0124	42
	Haying/Mowing	433	260	0.0095	3
	Fences		5,425	0.0353	192
	Additional Authorized Take		5,425	0.005	27
	Total Annual Take				366
	Annual Take Based on Proportion on Private Lands within COT Population Boundary (35%)				128
	Annual Take as a Percentage of Population in Covered Area				2.4%
	Wyoming Basin	Livestock Grazing Management Inconsistent with the Needs of the Covered Species			
Nest Abandonment		2,397	1,227*	0.0311	38
Nest Trampling		2,397	1,227*	0.0124	15
Haying/Mowing		299	248	0.0095	2
Fences			1,994	0.0353	70
Additional Authorized Take			1,994	0.005	10
Total Annual Take					136
Annual Take Based on Proportion on Private Lands within COT Population Boundary (49%)					67
Annual Take as a Percentage of Population in Covered Area					3.3%
Yellowstone Watershed		Livestock Grazing Management Inconsistent with the Needs of the Covered Species			
	Nest Abandonment	72,026	24,142*	0.0311	750
	Nest Trampling	72,026	24,142*	0.0124	300
	Haying/Mowing	3,630	1,977	0.0095	19
	Fences		39,231	0.0353	1,385
	Additional Authorized Take		39,231	0.005	196
	Total Annual Take				2,649
	Annual Take Based on Proportion on Private Lands within COT Population Boundary (78%)				2,054
	Annual Take as a Percentage of Population in Covered Area				5.2%

[‡] Assume all sage-grouse habitat is grazed by livestock.

* Assume that effects of livestock grazing on nests impacts females only. Assume ratio of females to males is 1.6:1.0.

[§] Assume birds are evenly distributed throughout habitat.

[†] Annual take is based on the assumption that all privately owned lands within each population boundary are enrolled in the CCAA.

Estimates of incidental take for sage-grouse represent the potential annual take if all privately owned lands within potential sagebrush habitats are enrolled in the CCAA.

We provide two examples of estimated incidental take for an enrolled property in the Northern Montana COT population consisting of 20.23 square kilometers (5,000 acres) of sagebrush habitat for sage-grouse. In the first example, both livestock management and haying/mowing occur on the enrolled property. In the second example, only livestock management is considered.

Sage-grouse Take Example 1.

Threat	Square kilometers impacted	Birds exposed	Rate of injury or mortality	Annual Take
Nest Abandonment	18.21	5.5	0.0311	0.17
Nest Trampling	18.21	5.5	0.0124	0.07
Haying/Mowing	2.02	1.0	0.0095	0.01
Fences		10.3	0.0353	0.36
Additional Authorized Take		10.3	0.005	0.05
Total Annual Take				0.66
Total Take over 20-year CCAA				13.29

Sage-grouse Take Example 2.

Threat	Square kilometers impacted	Birds exposed	Rate of injury or mortality	Annual Take
Nest Abandonment	20.23	6.2	0.0311	0.19
Nest Trampling	20.23	6.2	0.0124	0.08
Fences		10.3	0.0353	0.36
Additional Authorized Take		10.3	0.005	0.05
Total Annual Take				0.68
Total Take over 20-year CCAA				13.63

5.4. Impacts of the Taking

The Conservation Measures identified in this CCAA are intended to maintain and enhance habitats and avoid or minimize adverse impacts to the Covered Species. Several Conservation Measures address potential sources of direct mortality or injury; harm in the form of habitat fragmentation, loss, or degradation; and harassment as a result of temporary disturbances associated with ranching and agricultural activities.

Incidental take of the Covered Species as a result of injury or death can occur from fence strikes or haying and mowing, but this CCAA includes Conservation Measures that are designed to minimize the risks associated with these activities. Harm as a result of fragmentation of habitat can be caused by fences, infrastructure, and roads. Several Conservation Measures in this

CCAA address fragmentation, including the Conservation Measure required of all enrolled property owners to maintain contiguous habitat. Incidental take in the form of harassment of the Covered Species is addressed through Conservation Measures that adjust timing of disturbances to avoid or minimize disruptions to normal behavioral patterns such as breeding, feeding, and sheltering.

For the reasons stated in Section 5.1 above, successful implementation of the Conservation Measures will reduce the likelihood of incidental take. Furthermore, any impacts to populations of the Covered Species in Montana from such take would be outweighed by the expected benefits, described below, of implementing the Conservation Measures in this Programmatic CCAA and associated CIs.

5.5. Expected Conservation Benefits

To enter into this Programmatic CCAA, the Service must determine that the benefits of the Conservation Measures to be implemented under this CCAA are reasonably expected to result in a net conservation benefit to the Covered Species. The Conservation Measures identified in this CCAA related to ranching and agricultural activities are expected to benefit the sage-grouse and declining grassland songbirds through maintenance, enhancement, and restoration of their habitats and reduction of threats related to habitat fragmentation, mortality, and disturbance. The level of anticipated incidental take related to implementation of the CCAA would be outweighed by the benefits of the CCAA's Conservation Measures. Non-Federal property owners control substantial acreage of critical habitats for sage-grouse and declining grassland songbirds, and encouraging implementation of Conservation Measures by enrolled property owners throughout Montana will contribute substantially to conservation efforts for the Covered Species. The expected conservation benefits relative to threats known to occur or potentially occur on ranching and agricultural lands in Montana are described in the following paragraphs.

The regulatory assurances conferred to property owners who enroll in this Programmatic CCAA provide an incentive to continue their ranching and agricultural operations on their enrolled properties, reducing the likelihood that these lands will be sold and/or subdivided and developed. Reducing this development threat would benefit populations of the Covered Species by maintaining both habitat quantity and quality and limiting habitat fragmentation, which has been identified as the most substantial threat to the Covered Species. The assurances conferred under the CCAA program by a section 10(a)(1)(A) permit require enrolled property owners to select Conservation Measures to reduce or remove threats present on their properties. The Programmatic CCAA provides further incentives for property owner participation through a streamlined enrollment process. Although enrollees will need to sign CIs that include Conservation Measures specific to their enrolled property, the Programmatic CCAA simplifies the process for developing site-specific land management plans by providing a suite of appropriate Conservation Measures for each threat that may occur on the covered lands. TNC will assist in selecting appropriate Conservation Measures for each enrolled

property. As more property owners enroll in this Programmatic CCAA, the benefits to the Covered Species are expected to occur at a landscape scale.

Livestock grazing has both direct and indirect impacts on the Covered Species and their habitats. Conservation Measures in this Programmatic CCAA attempt to avoid or minimize direct physical threats to the Covered Species. In some instances, grazing livestock can disturb or displace birds. Methods to avoid or minimize such impacts include not concentrating livestock and avoiding the use of machinery or vehicles in known breeding habitats or near known sage-grouse leks at times when these areas are in use by the Covered Species.

Conservation Measures that address vegetative conditions on lands enrolled in this CCAA primarily concern livestock grazing management. Grazing influences the structure, species composition, and productivity of plant communities, and can be used to create a mosaic of habitats to match the diverse requirements of the Covered Species. Timing, duration, frequency and stocking rates are important ranch management decisions that influence vegetation conditions. These decisions, coupled with management of fences, herding techniques, salt and mineral placement, season of use, water development, and type of livestock, constitute the majority of ranch management options. Although the productivity and plant species composition of native rangelands is largely shaped by soils and precipitation (Kantrud and Kologiski 1983, Lipsey and Naugle 2017), livestock grazing is an essential tool to create and maintain habitats for the Covered Species. Flexibility in implementing grazing management practices (e.g., stocking rates, duration, timing, etc.) is required to support the Covered Species, and site-specific grazing management should be considered within the context of the surrounding landscape.

Fencing is an effective method to control livestock use of pastures and to facilitate livestock use across the property to avoid localized impacts to critical habitats such as riparian areas. However, fencing can also degrade and fragment habitat, particularly if roads are maintained adjacent to the fences. Fences can provide a pathway for predators, introduce non-native plant species, and contribute to bird-fence collision risks. Conservation Measures designed to reduce or remove these threats include habitat assessments to avoid constructing new fences in important habitats, removal of fences where fence collisions have occurred or are likely to occur, use of temporary or electric fencing, and installation of markers to improve fence visibility.

Conservation Measures to reduce the impacts of other range management structures include the installation of wildlife escape structures in stock tanks to reduce the risk of mortality due to drowning; removal of obsolete structures to reduce perching sites for avian predators and brown-headed cowbirds; and consideration of potential impacts to wetland and riparian vegetation when creating new or modifying existing water developments.

Mowing tame grass pastures may make these areas more attractive to some of the covered songbirds by creating vegetation structure similar to that of native grasslands (Dale et al. 1997, Fisher and Davis 2011). Tame grass pastures idled for more than one year typically do not

provide suitable habitats for the covered grassland songbirds (Dale et al. 1997, Dechant et al. a, 2002b). Direct mortality of the Covered Species can be avoided by delaying mowing until after the nesting period and employing wildlife-friendly haying techniques.

Expansion of conifers into sagebrush habitats can lead to reduced use of these habitats by sage-grouse or complete abandonment of these areas. Removal of conifers that have expanded into these habitats will increase suitable habitat and restore previously occupied habitat (Baruch-Mordo et al. 2013). Conservation Measures related to conifer encroachment will prioritize mechanical treatments to minimize impacts to sagebrush habitats, and focus efforts on areas in the early phases of conifer encroachment to maximize treatment effectiveness.

Woody tree plantings, particularly trees planted in linear rows, fragment habitats and can provide habitat and corridors for nest predators. Conservation Measures that remove woody plantings can improve habitat quantity and quality for the Covered Species. Where possible, measures should focus on removal of linear tree rows, as these affect a disproportionate amount of habitat by increasing the amount of edge habitat (Thompson et al. 2014).

Conservation Measures related to non-native, invasive plant species include education of property owners to identify non-native plant species, and the development of survey and monitoring methods, prevention, and treatment options that focus on preventing new infestations and reducing the expansion of existing populations. Integrating multiple management methods, including livestock grazing, approved herbicides, and prescribed burning, can limit seed production and spread of non-native pasture grasses including crested wheatgrass.

Infrastructure such as power lines, communications towers, and buildings can fragment otherwise suitable habitats. Additionally, these structures can serve as predator attractants, indirectly influencing populations and habitats of the Covered Species. Conservation Measures related to infrastructure include prohibiting construction of new wind or communication towers, removing abandoned infrastructure to discourage predators, and employing avoidance and minimization practices to reduce the impacts of power lines on the Covered Species.

Insecticide use may be necessary on properties enrolled in this CCAA during times of insect outbreaks that can substantially impact ranching and agricultural operations. However, insecticides can reduce insect availability during the breeding season for both young and adults of the Covered Species. Conservation Measures in this CCAA attempt to reduce the impact of insecticides by limiting their use to limited circumstances and establishing no treatment buffers within 3.1 miles of active sage-grouse leks or known brood-rearing areas.

Roads fragment otherwise suitable habitats, and diminish habitat quality through the introduction of non-native, invasive plant species. Conservation Measures implemented through this CCAA, such as not building new roads in sagebrush and grassland habitats and not upgrading existing roads, will reduce fragmentation due to roads in sage-grouse and/or

declining grassland songbird habitats. Additionally, the cover of non-native vegetation associated with roadsides will be reduced through an integrated approach.

Non-consumptive, recreational use of sage-grouse and declining grassland bird habitats can indirectly disturb or harass the Covered Species. Conservation Measures will limit the impacts of recreational activities such as OHV use in breeding, nesting, and wintering habitats, and minimize the impact of recreational activities on leks and brood habitat.

6. IMPLEMENTATION

6.1. Application Process for a Certificate of Inclusion

The appendices in this document provide specific information and necessary forms for completing a CI. The following steps summarize the process (see Appendix G for a detailed description):

1. Non-Federal property owners interested in enrolling under this Programmatic CCAA should contact The Nature Conservancy (TNC). TNC provides interested property owners with a pre-application screen (Appendix J) to complete and return. The pre-application screen includes the information necessary to evaluate if the property is appropriate for a CI (e.g., contact information; property location; and description of habitat, land use, and management). TNC, the Service, and/or appropriate Cooperators will assist the property owner in filling out habitat information, as needed. If a property owner has an approved PLA that addresses all of the key threats and implements the appropriate Conservation Measures identified in this CCAA, this will be noted on the pre-application. The property owner will attach the PLA, which will be used to develop a draft CI (see Step #4).
2. TNC, the Service, and appropriate Cooperators will collaboratively review the CI pre-application screen.
3. TNC, the Service, and appropriate Cooperators will gather maps of property boundaries (based on legal description provided by the property owner), soil maps, ecological site information, existing information regarding sagebrush and/or grassland cover, the location of known leks, presence and amount of seasonal habitats, occurrence of declining grassland songbirds, and topographical features. TNC, the Service, Cooperators, and the property owner will then mutually determine if the property is appropriate for a CI under this Programmatic CCAA.
4. The property owner will develop a draft CI with assistance from TNC, the Service, and Cooperators (see Appendix A).
 - a. TNC and the property owner will fill out the Conservation Measures and Monitoring Table in the CI application form (Appendix A) for the property to be enrolled. This will include:
 - i. Identifying all of the key threats within the property owner's control,
 - ii. Selecting one or more corresponding Conservation Measures from the suite of Conservation Measures in the Programmatic CCAA to address each threat,
 - iii. Identifying appropriate monitoring.

- b. The draft CI will incorporate by reference all of the requirements, processes, supporting information (including any applicable PLA), and other stipulations of this Programmatic CCAA.
5. Before submitting the application package to TNC, the property owner should conduct his/her own risk analysis and cost/benefit evaluation of the commitments under the CI.
6. The property owner submits to TNC and the Service a completed draft CI.
7. TNC and the Service will review the CI application to determine if it meets all of the requirements of this Programmatic CCAA as well as all relevant regulatory and other standards. The proposed CI must identify the Conservation Measures that the property owner will agree to implement on the enrolled property. The use of this Programmatic CCAA, and cooperation between TNC, the Service, Cooperators, and the property owner during the development of the draft CI, is intended to result in a streamlined review of the submitted application document.
8. If TNC and the Service determine that the CI meets all of the requirements of the Programmatic CCAA, then TNC, the Service, and the property owner will sign the CI. The CI holder will then receive incidental take authorization conveyed from the Permit through the approved CI. Upon listing of any of the Covered Species, ESA take prohibitions for the species become effective along with any authorizations of take. The Service provides assurances to the enrolled property owner that, if any of the Covered Species are listed, it will not require additional Conservation Measures or additional land, water, or other resource use restrictions beyond those required by the CI as long as the property owner is properly implementing the CI.
9. If the enrolled property owner does not have an adequate site-specific land management plan for implementing the approved CI in place at the time of CI approval, then a plan must be developed within 18 months. This plan should detail as needed how the current practices, Conservation Measures, and monitoring agreed to in the Programmatic CCAA will be implemented on the enrolled property. TNC, the Service, and Cooperators will assist in the development of the site-specific land management plan, which the Service must review and approve in writing. If a site-specific land management plan has not been completed within 18 months of signature of the CI, then TNC and the Service may suspend or terminate the CI.

6.2 Prioritizing Certificate of Inclusion Applications

To effectively allocate limited resources and maximize conservation efforts, the Montana PFW Program developed Conservation Focus Areas (CFAs; Figure 12) that identify priority landscapes and associated species (Montana PFW Strategic Plan 2017-2021). CFAs provide a useful way to prioritize Certificate of Inclusion applications under this Programmatic CCAA, as these areas intersect with core areas for both sage-grouse and declining grassland songbirds. Additionally, CFAs specifically focus on priority species that have substantial portions of their Montana distribution on private lands.

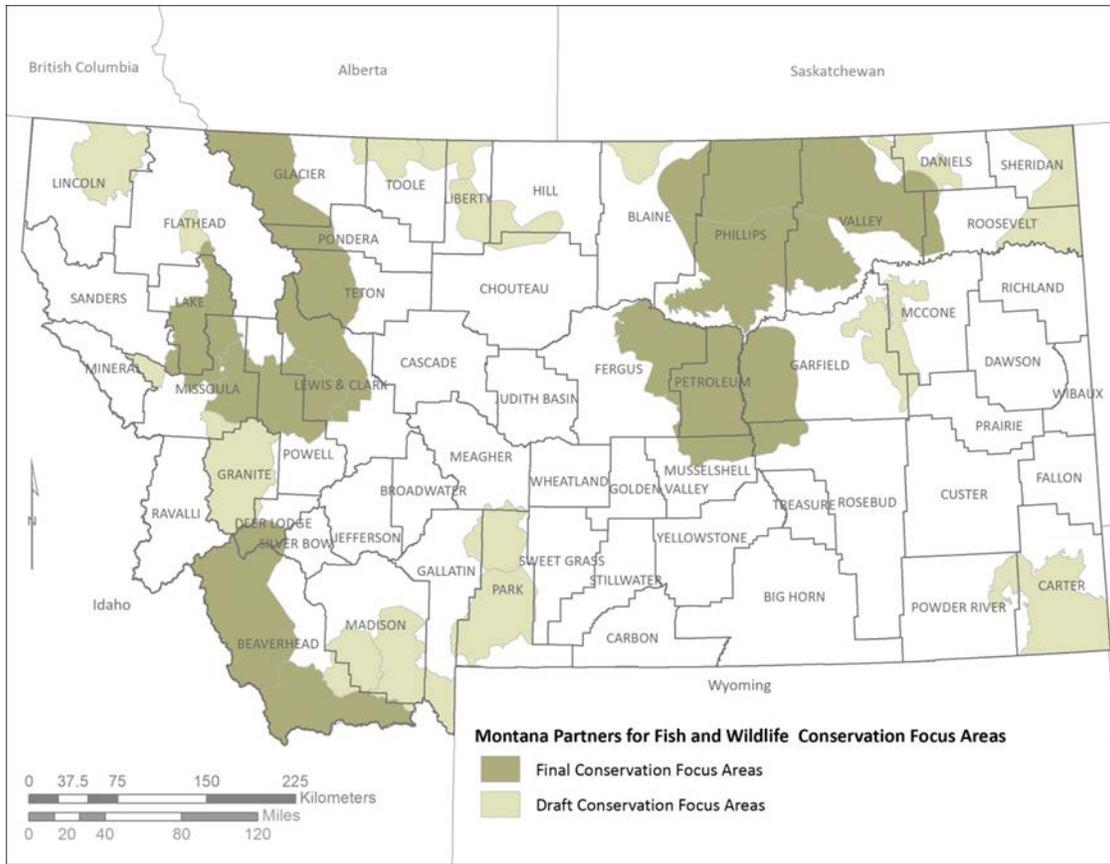


Figure 12. Conservation Focus Areas identified by the Montana Partners for Fish and Wildlife Program.

Applications for Certificates of Inclusion will be prioritized in the following order (see Figure 13):

Highest Priority*

1. Portions of the declining grassland songbird core areas and/or sage-grouse connectivity area/core areas that intersect with Montana PFW’s Final CFAs.

Medium Priority

2. Portions of the declining grassland songbird core areas and/or sage-grouse connectivity area/core areas that are outside of Montana PFW’s Final CFAs but intersect with Montana PFW’s Draft CFAs.

Lower Priority

3. Portions of the declining grassland songbird core areas and/or sage-grouse connectivity area/core areas that occur outside of Montana PFW’s Final and Draft CFAs.
4. Portions of declining grassland songbird potential habitats and/or sage-grouse general habitat that intersect with either Montana PFW’s Final or Draft CFAs.
5. Portions of declining grassland songbird potential habitats and/or sage-grouse general habitat that occur outside of Montana PFW’s CFAs.

*Initial prioritization will focus on sage-grouse core areas/connectivity area in Phillips, Valley, and Beaverhead Counties and on declining grassland songbird core areas in Phillips, Valley, and Blaine Counties to maximize current conservation efforts.

8. Ensure that terms and conditions included in the CI and site-specific plans are being implemented as agreed upon.
9. In those cases where terms or conditions of any CI and included site-specific plan are not being met, work with the property owner and the Service to resolve the non-compliance. If efforts to resolve compliance issues have not been effective, then TNC and the Service can suspend or terminate, in whole or in part, the non-compliant CI, if necessary.
10. In coordination with the enrolled property owner and the Service, TNC will collect and evaluate monitoring data to determine if the Conservation Measures are being properly implemented and are achieving the identified conservation objectives, and will also share results and reports.
11. In coordination with the Service and the enrolled property owner, evaluate any proposed modifications to CIs or the Programmatic CCAA, and process any approved modifications to CI(s), where necessary and appropriate.
12. Provide technical assistance to enrolled property owners for implementing the Conservation Measures.
13. Assist in obtaining funding from other sources for the implementation of Conservation Measures.
14. Within 48 hours, report to the Service any observed or reported mortalities of sage-grouse or any of the declining grassland songbird species covered under this Programmatic CCAA.
15. Submit annual report to the Service by February 28 of each year.
16. Meet annually with the Service to present annual and periodic monitoring information.

6.3.2. U.S. Fish and Wildlife Service

Subject to authorized and appropriated funds, the Service will:

1. Serve as advisors to TNC and property owners, providing expertise on the conservation of sage-grouse and the declining grassland songbirds covered under this Programmatic CCAA, as well as information on Service requirements regarding CCAAs.
2. Review and process CI applications in coordination with TNC.
3. In coordination with TNC and Cooperators, provide assistance in developing and implementing CIs and site-specific land management plans, or PLAs if applicable.
4. Before accessing an enrolled property, coordinate with Cooperators to ensure that the property owner is personally notified at least 2 weeks in advance with a mutually agreed-upon time and location, as well as a list of all personnel that will be on the enrolled property.
5. Carry out any responsibilities agreed to in any CIs and site-specific land management plans, or PLAs if applicable, to assist with implementing Conservation Measures and monitoring.
6. Help seek funding, if available, to support implementation of this Programmatic CCAA and site-specific land management plans, or PLAs, if applicable.
7. In coordination with TNC and the enrolled property owner, evaluate any proposed modifications to CIs or the Programmatic CCAA, and process any modifications to CIs or amendments to the Permit, where necessary and appropriate.
8. Ensure that the terms and conditions included in the Permit and CIs are being implemented as agreed upon.

9. In those cases where terms of any CI are not being met, work with TNC and the enrolled property owner to resolve the compliance issues. If efforts to resolve the issues have not been effective, then TNC and the Service can suspend or terminate, in whole or in part, the non-compliant CI, or the Service can suspend or revoke the Permit (see Permit Suspension and Revocation, below), if necessary.
10. Conduct effectiveness and/or compliance monitoring when appropriate.
11. Help coordinate completion of all monitoring requirements set forth in this CCAA and the associated CIs.
12. Help coordinate completion of reports pertinent to CIs under this Programmatic CCAA.
13. Review monitoring and other reports for CIs and this Programmatic CCAA.
14. Meet annually with TNC to review annual and periodic monitoring information presented by TNC.

6.3.3. Participating Property Owners

1. In collaboration with the Service and TNC, develop a Service-approved site-specific land management plan detailing how the current practices, Conservation Measures, and monitoring will be implemented on the enrolled property within 18 months of approval of the CI. In instances where a property owner has an approved and signed PLA, the Service and TNC will use the information in the PLA to develop the CI.
2. Comply with the terms and conditions of the CI.
3. Allow TNC, the Service, or their agents, to access the enrolled properties at mutually agreed upon times to complete agreed-upon activities necessary to implement the CI or for monitoring or other activities authorized by this Programmatic CCAA. Notice will be provided at least two weeks in advance of a visit by TNC, the Service, or their agents. Nothing in this section precludes the Service from carrying out its duties as required and authorized by law, including law enforcement investigations.
4. Continue current management practices that conserve the Covered Species and their habitats as identified in the enrollment process and the CI.
5. Implement all agreed upon Conservation Measures included in this CI and described in detail in the site-specific land management plan within the agreed upon timeframes.
6. Comply with all conditions associated with Changed Circumstances, Unforeseen Circumstances, and Adaptive Management, as described in the Programmatic CCAA, including but not limited to implementation of the Changed Circumstance Conservation Measures (CCCMs) provided for in Section 3.3 of the Programmatic CCAA.
7. Avoid impacts to populations and individuals of the Covered Species present on the enrolled lands to the maximum extent practicable.
8. Record dates, locations, and numbers of sage-grouse, and if possible, declining grassland songbirds, observed on the enrolled lands to be included in their annual report.
9. Record new observations of noxious weeds found incidentally.
10. Report observed mortalities of the Covered Species to the Service and TNC within 48 hours.
11. Cooperate and assist with annual and long-term monitoring activities and other reporting requirements identified in this Programmatic CCAA, the CI, and the site-specific land management plan.

7. DURATION OF THE CCAA AND PERMITS

This Programmatic CCAA will be in effect for 20 years following its approval and signing by the Service, TNC, and any other Cooperator. Certificates of Inclusion (CIs) for enrolled property owners, including any commitments related to funding under Service programs, will be in effect for 20 years following approval and execution of the CI by TNC and the Service, or until expiration of this Programmatic CCAA, whichever is earlier. The Section 10(a)(1) permit authorizing incidental take of the species and providing the assurances described in this Programmatic CCAA will be effective from the date of listing, should that occur, until the expiration date of this Programmatic CCAA or the CI, whichever is earlier. The duration stated for this CCAA and the Permit is primarily determined based on a timeframe that is sufficient to realize the benefits to sage-grouse, declining grassland songbirds, and their habitats. The stated duration for CIs also provides a reasonable and efficient timeframe before enrolled property owners, TNC, the Service, and Cooperators would need to revisit the process for renewal, as appropriate. As long as the Programmatic CCAA remains in effect, TNC and the Service may renew CIs, based on the re-evaluation of each CI's ability to continue to meet the CCAA standard and agreement of the Cooperators, including the property owner enrolled in this CCAA through the CI. An enrolled property owner may also voluntarily terminate a CI, as described in the Termination section, below.

8. NOTIFICATION OF TAKE REQUIREMENT

Although it will not be possible in all incidental take situations, to the extent possible, enrolled landowners agree to provide the Service with an opportunity to rescue individuals of the Covered Species before anticipated and authorized take occurs (e.g., mowing hay with potential to take a nesting sage-grouse hen and brood). In such cases, notification of take should be provided to the Service 30 days prior to the action; minimally, notification must occur no less than 14 days prior to the action.

For those situations in which unpredicted, authorized take has occurred, the enrolled property owner agrees to notify TNC or the Service within 48 hours of any observation of take of sage-grouse or declining grassland songbirds on the enrolled property. If TNC or other Cooperators observe or learn of any take of the Covered Species on an enrolled property, it shall also notify the Service within 48 hours of learning of the take.

9. AVAILABILITY OF FUNDS

The Service and Federal Cooperators are subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this CCAA will be construed by any Cooperator, or enrolled property owner to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Cooperators, and enrolled property owners also acknowledge that the Service is not required under this CCAA to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

10. REPORTING BY PROPERTY OWNER

All reports, including monitoring and annual reports, required by this CCAA and CIs shall be delivered to the person listed below:

Brian Martin
Montana Grasslands Conservation Director
The Nature Conservancy
P.O. Box 2482
Red Lodge, MT 59068

Jim Berkey
High Divide Headwaters Director
The Nature Conservancy
P.O. Box 8316
Missoula, MT 59807

Jodi Bush
Office Supervisor
Montana Ecological Services Office
U.S. Fish and Wildlife Service
585 Shephard Way, Suite 1
Helena, MT 59601

11. MODIFICATIONS AND PERMIT AMENDMENTS

The Service and other Cooperators may not, through modification of this Programmatic CCAA, impose any new requirements or conditions on, or modify any existing requirements or conditions applicable to, TNC or an enrolled property owner (or successor in interest to the TNC or an enrolled property owner), to compensate for changes in the conditions or circumstances of any species or ecosystem, natural community, or habitat covered by this Programmatic CCAA, except as stipulated in 50 CFR 17.22(d)(5) and 17.32(d)(5) or as mutually agreed upon by the Service, TNC, and an enrolled property owner.

11.1. Modification to the Programmatic CCAA or CIs

Any party to this Programmatic CCAA or associated CIs may propose modifications to the agreement to which they are party by providing written notice to, and obtaining the written concurrence of, the other parties to the agreement. Such notice shall include a statement of the proposed modification, the reason for it, and its expected results. The other parties to the agreement proposed for modification will use their best efforts to respond to proposed modifications within 60 days of receipt of such notice.

Property owners enrolled in CIs prior to a modification to the Programmatic CCAA will not be required to implement additional Conservation Measures as a result of the modification, but they may voluntarily choose to do so. Property owners entering into a CI after a modification or amendment to this Programmatic CCAA will be required to include the CCAA requirements as modified in their CI if appropriate to their properties to be enrolled.

The Service must determine whether a proposed modification of this Programmatic CCAA or associated CIs would be a minor or major modification resulting in outcomes significantly different from those analyzed in the original agreement. Minor modifications involve routine administrative revisions or changes to the operation and management program associated with the Programmatic CCAA or CI. Minor modifications do not include the addition or significant alteration of Conservation Measures.

Upon the written request of one of the parties to a CI, the Service and TNC can approve minor modifications to the CI if the modification does not conflict with the purposes of the Programmatic CCAA or would not result in some material change to the Service's analyses (i.e., with respect to meeting the CCAA standard, the amount of take authorized, the Section 7 determination, or the National Environmental Policy Act [NEPA] decision). Minor modifications do not require notice in the Federal Register, but do require written documentation that Cooperators approved the modification prior to it becoming effective.

Major modifications may include, but are not limited to, those that result in (1) a different level or type of take than was analyzed in association with this Programmatic CCAA or associated CI or (2) a change to the cumulative conservation benefits to the sage-grouse or declining grassland songbirds such that the CCAA standard might not be met. Proposed major CCAA modifications and Permit amendments must be approved by the Service in accordance with the procedural requirements of Federal laws and regulations, such as NEPA, and may require additional analysis by the Service, public notification in the Federal Register, and a formal CCAA amendment process.

11.2. Amendment of the Section 10(a)(1)(A) Permit

The Service will amend the Permit as appropriate to reflect any modifications to this Programmatic CCAA approved through the process described in Section 11.1, above. Prior to doing so, however, the Service must comply with all applicable legal requirements, including but not limited to the ESA, NEPA, and the Service's permit regulations at 50 CFR Part 13 and 50 CFR Part 17. The Service must determine that proposed amendments to the permit conform with the general permit (50 CFR Part 13) and section 10(a)(1)(A) permit requirements before it can amend a Permit. The amendment procedure cannot be used to require Conservation Measures on enrolled properties that are not provided for in this Programmatic CCAA, or to impose additional land, water, or resource use restrictions on enrolled properties, without property owner consent.

12. TERMINATION OF THE CCAA

As provided for in the Service's Candidate Conservation Agreement with Assurances Policy (81 FR 95164) and the regulations implementing the policy (69 FR 24084), including the most recent CCAA policy and regulation updates (81 FR 95164, 81 FR 95053), TNC may terminate the Permit or an enrolled property owner may terminate a CI prior to the CCAA's or CI's expiration date, even if all the requirements have not been implemented and the expected benefits have not been realized. If TNC terminates the Permit or is unable or unwilling to perform its obligations under this Programmatic CCAA, TNC is required to surrender the Permit, thus extinguishing take authority (if any of the Covered Species have become listed at the time of termination) and the assurances granted by the Permit. Likewise, if an enrolled property owner terminates the CI or is unable or unwilling to continue implementation of the Conservation Measures and stipulations of the CI or the Programmatic CCAA and to otherwise comply with the CI, the take authority and assurances conveyed to the property owner by the Permit through the CI are relinquished. An enrolled property owner must provide 30-days written notice to TNC and the Service of intent to terminate a CI. TNC must provide 30-days written notice to the Service, all enrolled property owners, and Cooperators of intent to terminate the Permit.

13. SUSPENSION OR REVOCATION OF PERMIT OR CERTIFICATES OF INCLUSION

The Service may suspend the privileges of exercising some or all of the Permit authority at any time if TNC is not in compliance with the conditions of the Permit or with any applicable laws or regulations governing the conduct of the permitted activity. Such suspension shall remain in effect until the issuing officer determines that TNC has corrected the deficiencies. The Service may not revoke the Permit except as follows:

The Service may revoke a Permit for any reason set forth in 50 CFR 13.28(a)(1) through (4). This regulation authorizes Permit revocation if:

- 1) The permit holder willfully violates any Federal or State statute or regulation, or any Indian tribal law or regulation, or any law or regulation of any foreign country, which involves a violation of the conditions of the Permit or of the laws or regulations governing the permitted activity; or
- 2) the permit holder fails within 60 days to correct deficiencies that were the cause of a Permit suspension; or
- 3) the permit holder becomes disqualified under 50 CFR 13.21(c); or
- 4) a change occurs in the statute or regulation authorizing the Permit that prohibits the continuation of a Permit issued by the Service.

The Service may also revoke a Permit if continuation of the permitted activity would either:

- 1) appreciably reduce the likelihood of survival and recovery in the wild of any listed species; or
- 2) directly or indirectly alter designated critical habitat such that it appreciably diminishes the value of that critical habitat for both the survival and recovery of a listed species.

Before revoking a Permit for either of the last two reasons, the Service, with the consent of the permit holder, will pursue all appropriate options to avoid Permit revocation. These options may include, but are not limited to: extending or modifying the existing Permit, capturing and relocating the species, compensating the property owner to forgo the activity, and purchasing an easement or fee simple interest in the property.

In those cases where terms or conditions of any CI and included site-specific land management plan are not being met, TNC will work with the property owner and the Service to resolve the non-compliance. If efforts to resolve compliance issues are not effective, TNC and the Service can suspend or terminate, in whole or in part, the non-compliant CI, if necessary

14. REMEDIES

Each party shall have all remedies otherwise available to enforce the terms of the CCAA and associated CIs and the Permit, except that no party shall be liable in monetary damages for any breach of this CCAA or CI, any failure to perform an obligation under this CCAA or a CI, or any other cause of action arising from this CCAA or a CI.

15. DISPUTE RESOLUTION

The Cooperators recognize that disputes concerning implementation of, compliance with, or termination of the Programmatic CCAA, Permit, or CIs may arise from time to time. The parties to this Programmatic CCAA, that is, the Service, TNC, and the enrolled property owners, agree to work together in good faith to resolve such disputes, using the informal dispute resolution procedures set forth in this section, or such other procedures upon which the parties involved in the dispute may later agree. However, if at any time any party determines circumstances so warrant, it may seek any available remedy without waiting to complete informal dispute resolution.

Informal dispute resolution process: Unless the involved parties agree upon another dispute resolution process, or unless an aggrieved party has initiated administrative proceedings or suit in Federal court, the parties may use the following process to attempt to resolve disputes:

- 1) The aggrieved party will notify the other parties of the CCAA, Permit or CI provision that has been potentially violated, the basis for contending a violation has occurred, and the remedies it proposes to correct the alleged violation.
- 2) The party alleged to be in violation will have 30 days, or such other time as may be agreed upon, to respond. During this time, the party alleged to be in violation may seek clarification of the information provided in the initial notice. The aggrieved party will use its best efforts to provide any available information responsive to such inquiries.
- 3) Within 30 days after such response was provided or was due, representatives of the parties having authority to resolve the dispute will meet and negotiate in good faith toward a solution satisfactory to all involved parties, or will establish a specific process and timetable to seek such a solution.
- 4) If any issues cannot be resolved through such negotiations, the parties involved will consider non-binding mediation and other alternative dispute resolution processes and, if a dispute resolution process is agreed upon, will make good faith efforts to resolve all remaining issues through that process.

16. SUCCESSION AND TRANSFER

This Programmatic CCAA shall be binding on and shall inure to the benefit of the property owners enrolled via CIs and their respective successors and transferees (i.e., new owners of the enrolled property) in accordance with applicable regulations (50 CFR 13.24 and 13.25). The new owner(s) will have the option of receiving the CCAA assurances and incidental take authorization provided by the Permit for the enrolled property by signing the existing CI through which the property was enrolled in this CCAA. The take authorization of the Permit and assurances conveyed to the previous enrolled property owners through the existing CI will only be extended to the new owner(s) if they choose to enroll by signing the existing CI. Upon signing the existing CI, the new owner(s) will have the same rights and obligations with respect to the enrolled property as the previous property owners. Alternatively, the new owners may enroll in a new CI, through the application process described in Section 7 above, and receive take authorization and assurances via the new CI upon its execution by the new property owner, TNC, and the Service.

Enrolled property owners shall notify TNC and the Service 30 days before any transfer of ownership of an enrolled property, so that TNC and the Service can attempt to contact the new owner, explain the baseline responsibilities applicable to the property, and seek to interest the new owner in signing the existing CI or a new one to benefit sage-grouse and/or declining grassland songbirds on the property. If a new owner chooses not to continue the property's enrollment in this CCAA, the Permit will terminate and the authorizations and assurances it provides with respect to the property will cease.

17. NO THIRD-PARTY BENEFICIARIES

This Programmatic CCAA and any subsequent CIs developed under the Programmatic CCAA do not create any new right or interest in any member of the public as a third-party beneficiary, nor shall they authorize anyone not a party to this CCAA or an associated CI to maintain a suit for personal injuries or damages pursuant to the provisions of this CCAA or an associated CI. The duties, obligations, and responsibilities of the Cooperators and enrolled property owners to this CCAA with respect to third parties shall remain as imposed under existing law.

18. NOTICES

This Programmatic CCAA was completed under a collaborative effort between The Nature Conservancy and the Service, with substantial input from other partners including Montana Fish, Wildlife, and Parks, and the Natural Resources Conservation Service.

IN WITNESS WHEREOF, THE NATURE CONSERVANCY and U.S. FISH AND WILDLIFE SERVICE have, as of the signature date below, executed this Programmatic Candidate Conservation Agreement with Assurances to be in effect.

Montana Grasslands Conservation Director,
The Nature Conservancy

Date

High Divide Headwaters Director,
The Nature Conservancy

Date

Office Supervisor, Montana Ecological Services Office,
U.S. Fish and Wildlife Service

Date

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Appendix A. Sample Certificate of Inclusion

CERTIFICATE OF INCLUSION
under the
Montana Greater Sage-grouse and Declining Grassland Songbirds Programmatic Candidate
Conservation Agreement with Assurances
between

[INSERT LANDOWNER NAME]

and

The Nature Conservancy

[DATE]

CI Number _____

A. Legal Conveyance of Assurances

This certifies that the property described herein (enrolled property), owned by [INSERT PROPERTY OWNER NAME] (Participating Landowner), is enrolled in and thereby included within the scope of the above named Candidate Conservation Agreement with Assurances (CCA) for the greater sage-grouse (sage-grouse) and declining grassland songbirds (Sprague's pipit, McCown's longspur, chestnut-collared longspur, and Baird's sparrow), as well as the Enhancement of Survival Permit (Permit) issued pursuant to the CCA to The Nature Conservancy under the authority of Section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA), 16 U.S.C. 1531-1544. The Participating Landowner certifies that the enrolled property is non-Federal land and that **he/she** is a property owner, as defined by 50 CFR § 17.3, because **he/she** has a fee simple, leasehold, or property interest in the enrolled property (including owners of water or other natural resources), or is another entity that has a property interest in the enrolled property, sufficient to carry out the conservation measures and other terms and conditions of this Certificate of Inclusion (CI), subject to applicable State law.

This CI was developed under the Montana Greater Sage-grouse and Declining Grassland Songbirds Programmatic CCA (Programmatic CCA), entered on [insert date] by the U.S. Fish and Wildlife Service (Service) and The Nature Conservancy (TNC). Unless otherwise provided in this CI, the terms and conditions of the Programmatic CCA are hereby incorporated in and made part of this CI. A copy of the Programmatic CCA is attached as **Appendix ___** to this CI.

The purpose of the U.S. Fish and Wildlife Service (Service), TNC, and the Participating Landowner entering into this CI is to reduce and/or eliminate threats to the sage-grouse and the four declining grassland songbirds (Covered Species) occurring on the enrolled property. As a result of the Participating Landowner agreeing to enter into this CI and implement the Conservation Measures described herein, the Service will provide regulatory assurances as long as the Participating Landowner is properly implementing this CI. As described more fully in the Programmatic CCA, assurances are that the Service will not require the Participating Landowner to undertake additional Conservation Measures or impose additional land, water or

resource use restrictions, beyond those provided for in this CI, should any of the Covered Species become listed as a threatened or endangered species under the ESA. In addition, as long as the CI is being properly implemented, the Service will provide the Participating Landowner with authorization for limited incidental take resulting from activities covered by the CCAA and implementation of the conservation measures identified in this CI.

This CI, between the Service, TNC, and the Participating Landowner, is the vehicle through which the Participating Landowner voluntarily enrolls the property described herein in the CCAA. Through this CI, the Participating Landowner voluntarily commits to implement specific conservation actions, identified herein, that will reduce and/or eliminate threats to the Covered Species. By signing below, the Participating Landowner acknowledges that [he/she] has read and understands the CCAA and this CI. The Participating Landowner further agrees to adhere to all of the terms and conditions of this CI and the Programmatic CCAA, and acknowledges that the Programmatic CCAA and associated CIs may not be sufficient to prevent the listing of any of the Covered Species.

B. Responsibilities of the Parties

The Nature Conservancy:

1. Comply with the terms and conditions of the Programmatic CCAA and the Permit.
2. Conduct public outreach and education to encourage enrollment of property owners in the CCAA through CIs.
3. Enroll landowners according to the steps outlined in Section 6.1. Application Process for a CI.
4. Assist in the selection of appropriate Conservation Measures for each CI, preparation of CIs, and development of site-specific land management plans.
5. Review CIs for consistency with the Programmatic CCAA and co-sign the CI and included site-specific land management plan (if the plan is completed at the time of CI approval).
6. Assist in the implementation of Conservation Measures and compliance and effectiveness monitoring as agreed upon during the development of the CI and the site-specific land management plan.
7. Before accessing the enrolled property, coordinate with Cooperators and ensure that the property owner is personally notified at least 2 weeks in advance with a mutually agreed-upon time and location, as well as a list of all personnel to access the enrolled property.
8. Ensure that terms and conditions included in the CI and site-specific plans are being implemented as agreed upon.
9. In those cases where terms or conditions of any CI and included site-specific plan are not being met, work with the property owner and the Service to resolve the non-compliance. If efforts to resolve compliance issues have not been effective, then TNC and the Service can suspend or terminate, in whole or in part, the non-compliant CI, if necessary.
10. In coordination with the enrolled property owner and the Service, TNC will collect and evaluate monitoring data to determine if the Conservation Measures are being properly implemented and are achieving the identified conservation objectives, and will also share results and reports.

11. In coordination with the Service and the enrolled property owner, evaluate any proposed modifications to CIs or the Programmatic CCAA, and process any approved modifications to CI(s), where necessary and appropriate.
12. Provide technical assistance to enrolled property owners for implementing the Conservation Measures.
13. Assist in obtaining funding from other sources for the implementation of Conservation Measures.
14. Within 48 hours, report to the Service any observed or reported mortalities of sage-grouse or any of the declining grassland songbird species covered under this Programmatic CCAA.
15. Submit annual report to the Service by February 28 of each year.
16. Meet annually with the Service to present annual and periodic monitoring information.

U.S. Fish and Wildlife Service:

Subject to authorized and appropriated funds, the Service will:

1. Serve as advisors to TNC and property owners, providing expertise on the conservation of sage-grouse and the declining grassland songbirds covered under this Programmatic CCAA, as well as information on Service requirements regarding CCAAs.
2. Review and process CI applications in coordination with TNC.
3. In coordination with TNC and Cooperators, provide assistance in developing and implementing CIs and site-specific land management plans, or PLAs if applicable.
4. Before accessing an enrolled property, ensure the property owner is personally notified at least 2 weeks in advance with a mutually agreed-upon time and location, as well as a list of all personnel that will be on the property.
5. Carry out any responsibilities agreed to in any CIs and site-specific land management plans, or PLAs if applicable, to assist with implementing Conservation Measures and monitoring.
6. Help seek funding, if available, to support implementation of this Programmatic CCAA and site-specific land management plans, or PLAs, if applicable.
7. In coordination with TNC and the enrolled property owner, evaluate any proposed modifications to CIs or the Programmatic CCAA, and process any modifications to CIs or amendments to the Permit, where necessary and appropriate.
8. Ensure that the terms and conditions included in the Permit and CIs are being implemented as agreed upon.
9. In those cases where terms of any CI are not being met, work with TNC and the enrolled property owner to resolve the compliance issues. If efforts to resolve the issues have not been effective, then TNC and the Service can suspend or terminate, in whole or in part, the non-compliant CI, or the Service can suspend or revoke the Permit (see Permit Suspension and Revocation, below), if necessary.
10. Conduct effectiveness and/or compliance monitoring when appropriate.
11. Help coordinate completion of all monitoring requirements set forth in this CCAA and the associated CIs.
12. Help coordinate completion of reports pertinent to CIs under this Programmatic CCAA.
13. Review monitoring and other reports for CIs and this Programmatic CCAA.
14. Meet annually with TNC to review annual and periodic monitoring information presented by TNC.

Participating Landowner(s):

1. In collaboration with the Service and TNC, develop a Service-approved site-specific land management plan detailing how the current practices, Conservation Measures, and monitoring will be implemented on the enrolled property within 18 months of approval of the CI. In instances where a property owner has an approved and signed PLA, the Service and TNC will use the information in the PLA to develop the CI.
2. Comply with the terms and conditions of the CI.
3. Allow TNC, the Service, or their agents, to access the enrolled properties at mutually agreed to timeframes, and with reasonable prior notice (at least 2 weeks), to complete agreed-upon activities necessary to implement the CI or for monitoring or other activities authorized by this Programmatic CCAA.
4. Continue current management practices that conserve the Covered Species and their habitats as identified in the enrollment process and the CI.
5. Implement all agreed upon Conservation Measures included in this CI and described in detail in the site-specific land management plan within the agreed upon timeframes.
6. Comply with all conditions associated with Changed Circumstances, Unforeseen Circumstances, and Adaptive Management, as described in the Programmatic CCAA, including but not limited to implementation of the Changed Circumstance Conservation Measures (CCCMs) provided for in Section 3.3 of the Programmatic CCAA.
7. Avoid impacts to populations and individuals of the Covered Species present on the enrolled lands to the maximum extent practicable.
8. Record dates, locations, and numbers of sage-grouse, and if possible, declining grassland songbirds, observed on the enrolled lands to be included in their annual report.
9. Record new observations of noxious weeds found incidentally.
10. Report observed mortalities of the Covered Species to the Service and TNC within 48 hours.
11. Cooperate and assist with annual and long-term monitoring activities and other reporting requirements identified in this Programmatic CCAA, the CI, and the site-specific land management plan.

C. Legal Description of the Enrolled Property

[Insert legal description of the property enrolled under this CI and a map.]

D. General Description of the Enrolled Property

1. Description of the enrolled property. This description should include a legal description, acreage, elevation, and precipitation zone. A map of the enrolled property should also be included depicting: (a) suitable or potentially suitable habitats for the Covered Species; (b) non-suitable habitats (e.g., cultivated croplands, ranch headquarters and associated buildings, etc.); (c) anthropogenic features; (d) livestock management; (e) known sage-grouse seasonal habitats, including leks; and (f) potential grassland songbird habitats.

a. *Suitable/potentially suitable habitats*: Map the major plant communities including: (1) sagebrush (identified to species or subspecies); (2) native grasslands; (3) shrublands dominated by species other than sagebrush; (4) tame pasture; (5) wetlands and/or riparian areas; and (6) woodlands/forests.

b. *Non-suitable habitats*:

- Cultivated cropland
- Envelope encompassing the ranch headquarters and associated buildings, including corrals and other ranch structures

c. *Anthropogenic features, including but not limited to the following*:

- Roads (describe level of improvement-e.g., gravel, two-track, etc. with a focus on primary ranch roads)
- Fences
- Power lines, substations, communications towers, pump stations, and similar features

d. *Livestock management*:

- Grazing unit/pasture with names and acres
- Livestock watering facilities
- Livestock mineral supplement and feeding areas
- Major livestock trailing, branding, and bedding areas

e. *Existing sage-grouse habitat conditions and areas of use (where applicable)*:

- Leks
- Seasonal habitats (nesting, brood-rearing, winter)
- State-designated core, connectivity, and general habitats occurring on the enrolled property

f. *Declining grassland songbird occurrence and habitats*:

- List the covered grassland songbird species identified on the enrolled property
- Identify potential grassland songbird habitats (based on ecological site and site potential)

E. Covered Activities and Level of Take

The following activities are considered compatible with or beneficial to populations and habitats of sage-grouse and/or declining grassland songbirds if properly implemented with appropriate Conservation Measures. Therefore, these land uses and activities, whether ongoing or implemented in the future, are covered under the Programmatic CCAA and associated CIs.

6. *General farm operation*: cultivation of existing fields (planting, cultivation, and harvesting small grain, seed, and/or hay crops); irrigation by flooding or sprinklers; weed control within fields; and maintenance of houses, outbuildings, fences, and corrals.
7. *General ranching and livestock operations*: grazing of forage; feeding hay and dietary supplements in feedlots and pastures; calving and branding operations (including temporary penning of animals); disposal of animals; construction and placement of watering sources; gathering and shipping of livestock; general stewardship; and animal husbandry practices.
8. *Recreation*: For the purposes of this Programmatic CCAA, the following land use, management, and recreational activities are defined as “covered activities,” although they may be further refined in individual site-specific land management plans: legal hunting and fishing; use of recreational vehicles both on and off established roads; horseback riding; camping; and hiking.
9. *Rangeland Treatments*: conifer treatments/removal; seeding with native seed; general stewardship of rangelands.

Take of the Covered Species will be avoided or minimized through the implementation of Conservation Measures. Any observed lethal take will be identified to the extent possible through monitoring methods detailed in the site-specific plan. Individual landowners are not allocated a specific amount of take of the Covered Species, and any reported take by an individual landowner will be considered in the cumulative amount of take permitted under the CCAA.

F. Conservation Measures to Address Identified Key Threats on the Property and Monitoring Requirements:

The primary threat to the Covered Species is habitat loss and fragmentation. Therefore, for this CCAA to address the conservation needs of these species, the following Conservation Measure must be implemented by all enrolled property owners on their enrolled property:

Maintain contiguous habitat by not undertaking new activities that would result in fragmentation (e.g., do not subdivide, develop, or convert habitat on the property).

The conservation objective for this required Conservation Measure is to maintain or increase existing native grassland/sagebrush steppe habitat quantity (as measured in acres) and habitat quality (as determined by ecological state) for the Covered Species. The determination of habitat quantity and quality will be completed during the initial baseline assessment.

The selected Conservation Measures will be implemented to maintain or improve habitats on lands covered by this CI.

[Insert a table with the current threats present on the property, conservation objectives, appropriate conservation measures, and monitoring requirements that apply to the individual property, as mutually agreed upon between the Permit holder, Service, other Cooperators, and the property owner. The table could then be used to record the actual measures taken to comply with the monitoring requirements and submitted as a report.]

G. Reporting Requirements

The enrolled property owner will complete and submit an annual compliance monitoring report (Appendix D of the Programmatic CCAA) to TNC throughout the duration of the Permit, unless a different reporting schedule is provided in this CI. TNC will assist the enrolled property owner with the completion of the annual effectiveness monitoring report (Appendix G of the Programmatic CCAA). Habitat information collected as part of periodic effectiveness monitoring (Table 4 of the Programmatic CCAA) on an individual property will be determined during the initial baseline assessment and further detailed in the site-specific management plan. All reports required by the Programmatic CCAA shall be delivered to the person listed below:

Montana Grasslands Conservation Director
The Nature Conservancy
P.O. Box 2482
Red Lodge, MT 59068

Office Supervisor
Montana Ecological Services Office
U.S. Fish and Wildlife Service
585 Shepard Way, Suite 1
Helena, MT 59601

High Divide Headwaters Director
The Nature Conservancy
P.O. Box 8316
Missoula, MT 59807

IN WITNESS WHEREOF, THE PARTIES HERETO have, as of the last signature date below, executed this Certificate of Inclusion in the Montana Greater Sage-grouse and Declining Grassland Songbirds Programmatic Candidate Conservation Agreement with Assurances.

Enrolled property owner(s)

The Nature Conservancy

U.S. Fish and Wildlife Service

Appendix B. Background and Status of the Covered Species

B.1. Background-Greater Sage-grouse

The greater sage-grouse has a broad distribution, occurring in 11 western states and two Canadian provinces. The distribution and numbers of the species, however, have undergone long-term declines, and the sage-grouse now occupies 56 percent of its historic range. As a result, in 2002 and 2003, the Service received petitions to list the sage-grouse across its range as threatened or endangered. After reviewing the species status, the Service published a finding on January 12, 2005 that the sage-grouse did not warrant range-wide protection under the ESA (70 FR 2243). This “not warranted” finding was challenged in court, and on December 4, 2007, the U.S. District Court for the District of Idaho ruled that the Service’s 2005 finding was arbitrary and capricious and remanded it to the Service for further consideration.

Following additional review of the species status, the Service published a finding on March 23, 2010, stating that listing the species rangewide was warranted, but was precluded at that time due to other higher priority listing actions (75 FR 13910). As a result of this finding, the sage-grouse was classified as a candidate species and placed on the Service’s candidate species list for future action. Subsequently, the Service entered into court-approved settlement agreements, in *re: Endangered Species Act Section 4 Deadline Litigation, MDL Docket No. 2165*, which included a schedule for the Service to make listing determinations on the sage-grouse and over 200 other candidate species. Under this court-ordered schedule, the Service was required to issue either a proposed rule to list the species rangewide, or a decision finding that listing the species is no longer warranted, no later than September 30, 2015. On October 2, 2015, the Service published a finding stating that the sage-grouse did not warrant range-wide protection under the ESA (80 FR 59858).

B.2. Life History and Habitat Requirements-Greater Sage-grouse

The sage-grouse is a member of the Phasianidae family. Adult males range in length from 26 to 30 in (66 to 76 cm) and weigh 4 to 7 lb (2 to 3 kg), and adult females range in length from 19 to 23 in (48 to 58 cm) and weigh 2 to 4 lb (1 to 2 kg). Adult males have dark brownish-gray body plumage heavily marked with drab gray and white speckles, fleshy yellow combs over the eyes, long pointed tails, and dark green toes. Males have blackish chin and throat feathers, conspicuous specialized erectile feathers at the back of the head and neck, and white feathers forming a ruff around the neck and upper belly. During breeding displays, males inflate bare olive-green air sacs on their breasts. Adult females are similar to males with dark brownish-gray plumage marked with drab gray and white on the head and breast but are generally more cryptic in appearance.

The sage-grouse is considered a landscape-scale species, requiring large areas of contiguous sagebrush habitat. Sage-grouse depend upon a variety of sagebrush habitats throughout their life cycle and are a sagebrush obligate. The plant species composition of sagebrush

communities is dependent upon elevation, precipitation, and soil productivity. Populations in eastern Montana occur in habitats dominated by Wyoming big sagebrush (*A. t. ssp. wyomingensis*) and an understory of rhizomatous wheatgrasses. Populations of sage-grouse in southwest Montana primarily occur in habitats dominated by mountain big sagebrush (*A. t. ssp. vaseyana*) although basin big sagebrush (*A. t. ssp. tridentata*), Wyoming big sagebrush, low sagebrush (*A. arbuscula*), threetip sagebrush (*A. tripartita*), and black sagebrush (*A. nova*) are also used. Understory vegetation in southwest Montana is dominated by bunchgrasses. Silver sagebrush (*A. cana* ssp. *cana*) communities with an understory dominated by rhizomatous wheatgrasses provides important habitat for populations in north-central Montana.

B.2.1. Food Habits

Sage-grouse do not possess a muscular gizzard and therefore lack the ability to grind and digest seeds. With the exception of some insects in the summer, the year-round diet of adult sage-grouse consists of leafy vegetation. Sage-grouse depend entirely on sagebrush throughout the winter for both food and cover. Sagebrush stand selection is influenced by snow, availability of sagebrush above the snow for foraging, and, in some areas, topography (e.g., elevation, slope and aspect).

B.2.2. Breeding

During the breeding season, male sage-grouse congregate to perform courtship displays (strutting) on areas called leks. Leks are located in relatively flat or gently sloping areas with low, sparse vegetation within large expanses of suitable nesting, roosting, and brood-rearing sagebrush habitats. Lek sites provide good visibility and acoustical qualities that allow the sounds of male breeding displays to carry. Leks can vary greatly in terms of both size and number of males; however, leks typically occur in the same location each year (Connelly et al. 2011). Lek location can shift in response to persistent disturbance, female mate selection, or severe winters. Additionally, in years of high sage-grouse relative abundance, males can form satellite leks. In Montana, males establish territories on leks in mid- to late March, but timing varies annually depending upon weather conditions (e.g., snowmelt).

B.2.3. Nesting

In Montana, data from radio-marked female sage-grouse indicate that the distance between nests and the lek on which breeding occurred is highly variable. One study in southeastern Montana found that 59 percent of nests were located within 1.6 km (1 mi) of the lek; 84 percent of nests were located within 3.2 km (2 mi) of the lek; 93 percent of nests were found within 4.8 km (3 mi) of the lek; and 97 percent of nests were found within 6.4 km (4 mi) of the lek (Foster et al. 2014). Similarly, 98 percent of nests were located within 4.8 km (3 mi) of the lek in central Montana (Sika 2006). However, in north-central Montana, 40 percent of nests were located greater than 5 km (3.1 mi) from the lek of capture (Moynahan 2004). In silver sagebrush habitats, nests were located on average 5.3 km (3.3 mi) from the lek of capture (Tack 2009).

Sage-grouse nests are placed on the ground and composed of small twigs lined with leaves and feathers plucked from the breast of the female. Nests are typically placed under a sagebrush shrub. Average clutch size ranges from 7.9 eggs in southeastern Montana (Foster et al. 2014) to 8.3 eggs (Sika 2006) in central Montana, and 8.5 eggs (Moynahan 2004) in north-central Montana. Re-nesting attempts after initial nest failure typically result in smaller clutch sizes. Incubation typically begins when the last egg is laid and lasts approximately 28 days.

Average sagebrush canopy cover at nest sites varies across the range of sage-grouse in Montana and is dependent upon the ecological site and dominant species of sagebrush present. In Wyoming big sagebrush communities, sagebrush canopy cover at sage-grouse nests averaged 16 percent in southeastern Montana (Foster et al. 2014). Sagebrush canopy cover averaged 19 percent in central and north-central Montana and 22 percent in the Powder River Basin (Lane 2005). In silver sagebrush stands, sagebrush canopy cover at nest sites averaged 7 percent (Tack 2009).

Sagebrush height at nest sites averaged 26 cm (10.2 in) and 30 cm (11.8 in) in north-central and central Montana, respectively (Lane 2005). Sagebrush height at southeastern Montana nest sites averaged 31 cm (12.2 in; Foster et al. 2014) and averaged 52 cm (20.5 in) at nest sites in the Powder River Basin (Lane 2005). The amount of residual herbaceous cover from the previous growing season provides critical nest concealment, as the nesting season begins before the onset of growth in most plants. The cover and height of residual and live herbaceous vegetation are dependent upon the ecological site potential and vegetation community at the site.

B.2.4. Brood-rearing

Early brood-rearing habitat requirements are very similar to nesting habitat requirements, as hens brood chicks for the first 2-3 weeks in the vicinity of the nest site (Holloran and Anderson 2005). During the first three weeks of life, insects such as ants, beetles, and grasshoppers are a major component of the diet, with forbs becoming increasingly important as the chicks age (Schroeder et al. 1999).

B.2.5. Movement and Seasonal Habitat Characteristics

Sage-grouse chicks leave the nest with the hen almost immediately after hatching. Sage-grouse hens move their broods to more mesic habitats with increased forbs, including agricultural lands and areas near water developments, about three weeks after hatching (Holloran and Anderson 2005). Hens without broods and adult males also use more mesic habitats during late summer.

As herbaceous plants desiccate in late summer and early fall, sage-grouse shift their diet to exclusively sagebrush leaves. Sage-grouse winter habitat varies depending upon snowfall depth, topography, and sagebrush height and density (Schroeder et al. 1999), and winter

habitat can be a limiting factor for sage-grouse (Moynahan et al. 2006). In general, sage-grouse winter habitat is generally flat within contiguous stands of big sagebrush (Eng and Schladweiler 1972, Smith 2013, Foster et al. 2014); however, sage-grouse will use sagebrush habitats on exposed ridgetops during severe winters (Smith 2013).

The degree of seasonal movements varies considerably among Montana's sage-grouse populations. Sage-grouse populations in north-central (south of the Milk River) and central Montana are generally considered non-migratory (Moynahan 2004, Sika 2006). The population in southeastern Montana shows variability in the proportion of females that make substantial (>10 km [6.2 mi]) movements between seasonal habitats (Foster et al. 2014). In southwestern Montana, some individuals are resident while others make substantial winter movements to Idaho (Roscoe 2002, Wisinski 2007). Most sage-grouse that breed in silver sagebrush habitats north of the Milk River migrate south to areas of Wyoming big sagebrush (Tack 2009), and the longest known annual round-trip migration of 240 km (149 mi) between summer range north of the Milk River to winter range south of the Milk River has been documented for this population (Smith 2013). Sage-grouse migrate relatively slowly along a network of routes, making frequent use of stopover sites in sagebrush habitat (Smith 2013).

B.2.6. Survival

Information from bands recovered from hunted birds indicates that sage-grouse can live at least 7 years (Connelly et al. 2011). Sage-grouse vital rates vary across the species' range in Montana. Nest survival varies annually and ranged from 32-56 percent in central Montana (Sika 2006); 28-42 percent in north-central Montana (Moynahan et al. 2007); 54-62 percent in silver sagebrush habitats of north-central Montana (Tack 2009); and 35-60 percent in southeastern Montana (Foster et al. 2014). Chick survival varied from 29 percent in southeastern Montana (Foster et al. 2014) to 33-38 percent in silver sagebrush of north-central Montana (Tack 2009). Survival of hens varies seasonally. Winter hen survival ranged from 74-91 percent in north-central Montana (Sika 2006), and nesting season survival ranged from 84-87 percent. Overall annual hen survival can vary greatly depending upon stochastic factors such as disease (e.g., West Nile virus) and severe winters (Moynahan et al. 2007). Much less is known about the survival of adult male sage-grouse; one study in southwestern Montana estimated the annual survival of adult males at 34 percent (Wisinski 2007).

B.2.7. Distribution

Prior to European settlement of western North America in the 19th century, sage-grouse occurred in 3 Canadian provinces (British Columbia, Alberta, and Saskatchewan) and 13 states (Washington, Oregon, California, Nevada, Idaho, Montana, Wyoming, Colorado, Utah, South Dakota, North Dakota, Nebraska, and Arizona). Sagebrush habitats that potentially supported sage-grouse occurred over approximately 1,200,483 km² (463,509 mi²) before 1800. Currently, the sage-grouse occurs in 11 states (absent from Nebraska and Arizona), and 2 Canadian provinces (absent from British Columbia), occupying approximately 56 percent of its historical range. Current distribution of the sage-grouse is estimated at 668,412 km² (258,075 mi²).

Changes in sage-grouse distribution are the result of alteration and degradation of sagebrush habitats.

Historically, the extent of sage-grouse habitat in Montana is estimated at over 250,000 km² (97,000 mi²). Montana Fish, Wildlife, and Parks (MFWP) estimates that current potential sage-grouse habitat in Montana totals 13,244,462 ha (32,727,779 ac). MFWP delineated sage-grouse Core Areas in Montana by identifying areas with the highest densities of displaying male sage-grouse based upon the locations of known leks and lek complexes and associated seasonal habitats (Figure 1). These Core Area boundaries were refined based on telemetry data and biological expert opinion. Currently, these sage-grouse Core Areas capture 76 percent of displaying males. Additionally, an area of connectivity between the core areas north of the Milk River and south of the Milk River delineates an important sage-grouse migratory pathway from southern Saskatchewan, Canada and North Valley County, Montana to core areas in South Phillips County and South Valley County (Smith 2013).

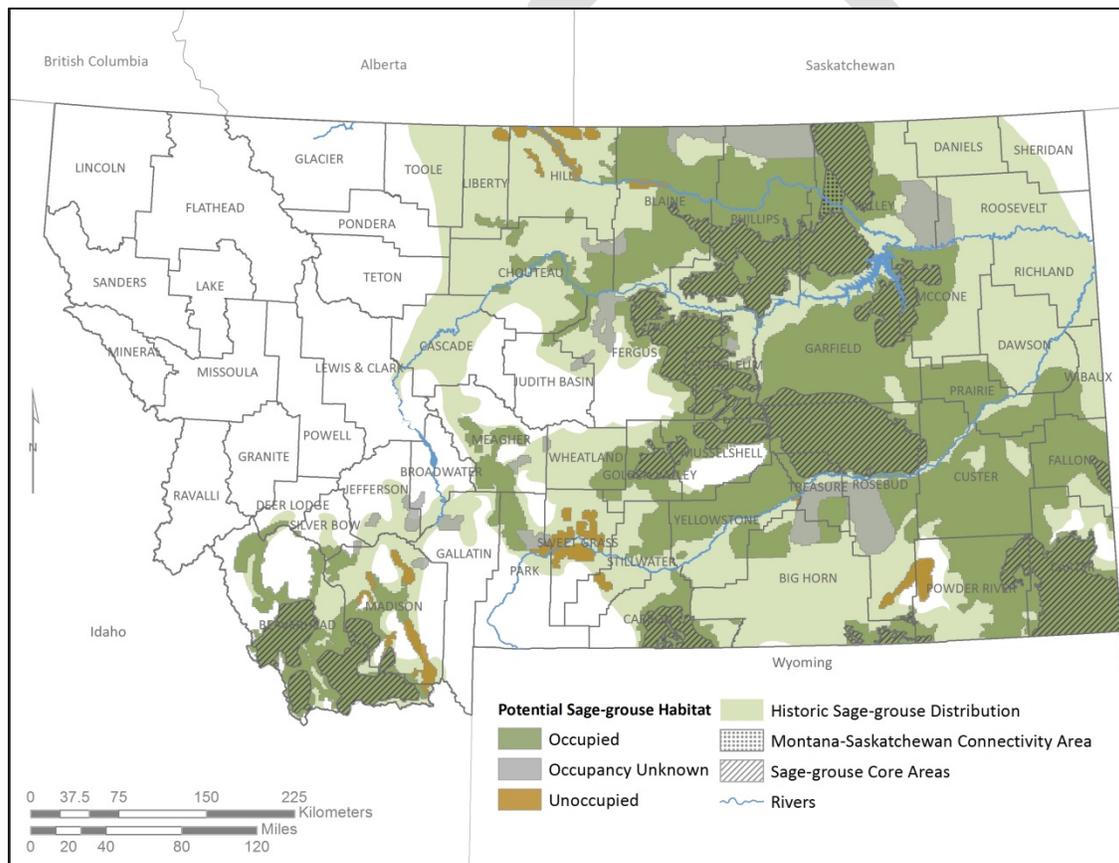


Figure 1. Estimated historic and potential current Greater Sage-grouse distribution in Montana (data source: MFWP).

B.3. Background-Declining Grassland Songbirds

Maintenance of large, contiguous grasslands is critical to support the diverse habitat requirements of grassland songbirds. These large grassland landscapes are necessary to capture the patterns in grassland habitats and, subsequently, patterns in grassland songbird species distributions. Grassland songbirds, particularly species native to the mixed-grass prairie of the Northern Great Plains, have experienced rangewide population declines, and the four declining grassland songbirds covered under this Programmatic CCAA have experienced long-term declining trends nationally (Sauer et al. 2017).

B.3.1. McCown's Longspur

McCown's longspur is listed as a Sensitive species by the Montana State Office of the BLM. MFWP (2015) listed McCown's longspur on its list of Species of Greatest Conservation Need (SGCN) as a species *potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas*. The Service lists McCown's longspur in its Birds of Conservation Concern 2008 report (BCC; USFWS 2008), which identifies non-game migratory birds that, without additional conservation actions, are likely to become candidates for listing under the ESA.

B.3.2. Chestnut-collared Longspur

The chestnut-collared longspur is listed as a Sensitive species by the Montana State Office of the BLM. MFWP (2015) listed the chestnut-collared longspur on its list of Species of Greatest Conservation Need (SGCN) as a species *at risk because of very limited and/or potentially declining population numbers, range and/or habitat, making it vulnerable to global extinction or extirpation in the state*. The Service lists chestnut-collared longspur in its BCC 2008 report (USFWS 2008).

B.3.3. Sprague's Pipit

In 2008, the Service received a petition to list Sprague's pipit as threatened or endangered throughout its range. After reviewing the species status, the Service published a finding on September 15, 2010 stating that listing Sprague's pipit was warranted but was precluded at that time due to other higher priority listing actions (75 FR 56028). On April 5, 2016, the Service published a 12-month finding stating that Sprague's pipit was not warranted (81 FR 19527).

Sprague's pipit is listed as a Sensitive species by the Montana State Office of the BLM. MFWP (2015) listed Sprague's pipit on its list of Species of Greatest Conservation Need (SGCN) as a species *potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas*. The Service lists Sprague's pipit in its BCC 2008 report (USFWS 2008).

B.3.4. Baird's Sparrow

In 1997, the Service received a petition to list Baird's sparrow as threatened or endangered throughout its range. After reviewing the species status, the Service published a finding on May 21, 1999 stating that the petition did not present substantial information indicating that listing Baird's sparrow as threatened was warranted (64 FR 27747).

Baird's sparrow is listed as a Sensitive species by the Montana State Office of the BLM. MFWP (2015) listed Baird's sparrow on its list of Species of Greatest Conservation Need (SGCN) as a species *potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas*. The Service lists Baird's sparrow in its BCC 2008 report (USFWS 2008).

B.4. Life History and Habitat Requirements-Declining Grassland Songbirds

Given the dynamic nature of both weather and disturbance patterns in grasslands of the Northern Great Plains, the ability of grassland songbirds to adapt to these often unpredictable conditions requires large, expansive grasslands. This dynamic environment has shaped the life history and habitat requirements of grassland songbirds.

B.4.1. McCown's Longspur

McCown's longspur is a chunky, sparrow-sized songbird with a long bill and short tail. Breeding males are gray with a black bill, crown, mustache, and upper breast, a gray belly, and chestnut wingbars. Females are grayish brown with dusky streaks on the sides and back. Longspurs are named for the elongated nail on their hind toe. McCown's longspur is distinguished from other longspurs by its distinctive tail pattern; white with an inverted black "T" (With 2010). McCown's longspur breeds in grasslands dominated by shortgrasses due either to low soil moisture or heavy grazing of mixed-grass prairie (Kantrud and Kologiski 1983).

B.4.1.1. Food Habits

McCown's longspur forages on the ground, eating primarily seeds of grasses and forbs throughout the breeding season. Lesser amounts of insects are also taken, including ants, grasshoppers, and beetles. Young longspurs are fed grasshoppers, moths, and other arthropods (With 2010).

B.4.1.2. Breeding

In Montana, McCown's longspur arrives on the breeding grounds in mid- to late April (DuBois 1937). During the breeding season, males establish and maintain territories through a distinct aerial display in which the songbirds fly upward and sing while floating down. Songs are also occasionally given while perched on low shrubs or rocks. Pairs are largely monogamous, maintaining a discrete territory throughout the breeding season (With 2010).

B.4.1.3. Nesting and Brood-rearing

Females select the nest site. Nests are often located beside an object such as a grass clump, cactus, or cowpie. Nests are placed in a hollow depression created by the female, and the rim of the nest is flush with the ground. Nesting material is collected on the territory. The nest is constructed of grass stems and blades and lined with finer grasses, hair, wool, and feathers. Clutch size is typically 3-4 eggs. Incubation lasts 12 day. Although only females incubate, males remain nearby. Both adults feed and brood nestlings until they leave the nest at about 10 days old. Recently fledged young associate with adults for about 3 weeks after nest departure. Second broods may be initiated as soon as 3 weeks after the first brood has fledged (With 2010).

B.4.1.4. Survival

No survival information is available for Montana. In studies from eastern Colorado, nest success varied annually from 27-75 percent (With 2010). No information exists on lifespan and survivorship.

B.4.1.5. Distribution

McCown's longspur is restricted to prairies dominated by sparse vegetative cover and shortgrasses. Populations are discontinuous, corresponding to the fragmented distribution of these habitats across the Great Plains. In north-central Montana, McCown's longspur exhibited a patchy distribution within the larger grassland landscape, corresponding with the availability of locally suitable sparse grass habitats (Lipsey 2015). Across its range, breeding populations are most numerous in southwestern Saskatchewan, north-central Montana, and Wyoming (Sedgwick 2004). Optimal breeding habitat in Montana occurs primarily in north-central Montana (Figure 3; MTNHP 2011), although McCown's longspur occurs throughout eastern and southwest Montana in suitable shortgrass habitats.

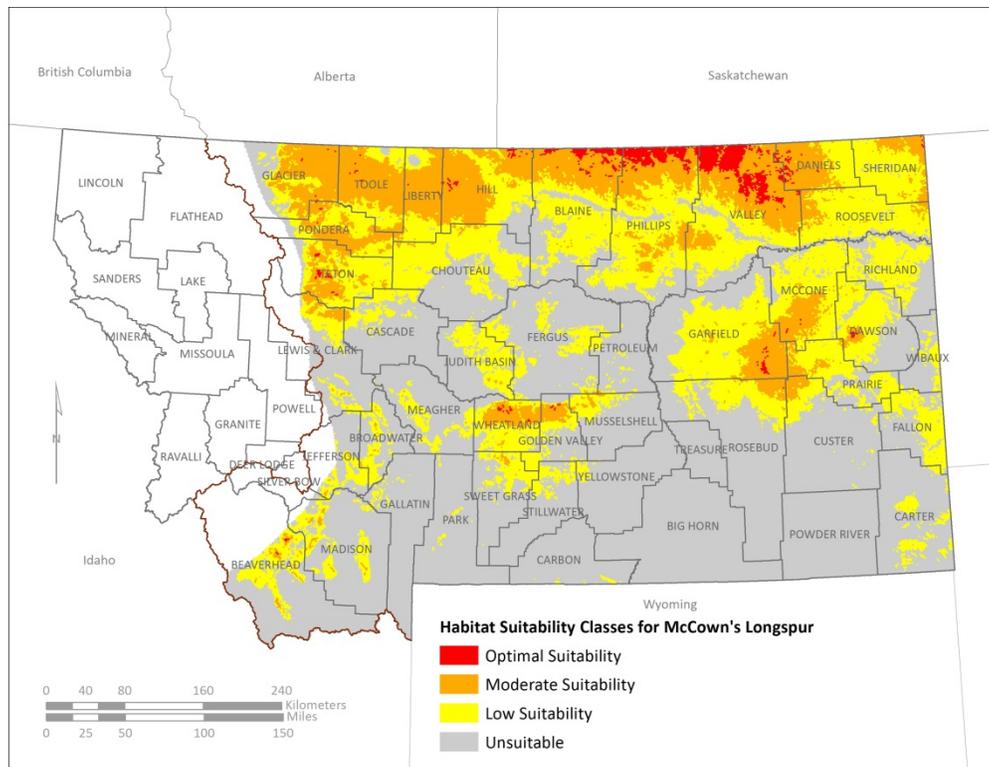


Figure 3. Predicted suitable habitat model for McCown’s longspur (MTNHP 2016c).

B.4.2. Chestnut-collared Longspur

Chestnut-collared longspur is a medium-sized, sparrow-like songbird with a short, thick bill. Breeding males have a black crown, chest and belly, and a deep chestnut nape. Females are grayish buff with dusky streaks on back and sides and occasionally show a faint chestnut collar. The pattern on the tail is distinctive, white at the base with a black triangular pattern (Bleho et al. 2015).

Chestnut-collared longspur breeds in mixed-grass or shortgrass prairie. This species prefers native grassland with level to rolling topography. Chestnut-collared longspur prefers areas with taller midgrasses than those preferred by McCown’s longspur. Grasslands with dense litter are avoided as are areas dominated by non-native pasture grasses (e.g., Kentucky bluegrass; Bleho et al. 2015).

B.4.2.1. Food Habits

Adults on the breeding grounds eat primarily insects, especially grasshoppers, and seeds of grasses and forbs. This species generally forages on the ground but will glean insects and seeds off of vegetation and fly-catch for insects low to the ground. Young are fed insects, particularly grasshoppers and insect larvae (Bleho et al. 2015).

B.4.2.2. Breeding

In Montana, male chestnut-collared longspurs arrive on the breeding grounds in early to mid-April with females arriving 1-2 weeks later (Lloyd and Martin 2005). Males establish and maintain breeding territories by performing aerial song displays in which they fly upward and descend while singing with tails spread. Breeding pairs are monogamous, and breeding territories do not overlap (Bleho et al. 2015). The breeding season in Montana ranges from April 30-August 10 (Jones et al. 2010).

B.4.2.3. Nesting and Brood-rearing

Nests are located in areas of sparse vegetation and placed in a hollow depression excavated by the female. The nest is often placed next to a clump of grass or a cowpie, and the rim of the nest is generally flush with the ground. Most nesting material is collected within 20 m (66 ft) of the nest site. The nest is constructed of grasses and lined with hair, feathers, or rootlets. Clutch size is typically 4 eggs, although clutches of 3 or 5 eggs are not uncommon. Incubation lasts on average 11 days. Only females incubate. Both adults feed and brood nestlings until they leave the nest at about 10 days old. Recently fledged young remain with adults for about 2 weeks after nest departure. Second broods may be initiated as soon as 6 days after the first brood has fledged (Bleho et al. 2015).

B.4.2.4. Survival

In north-central Montana, overall nest survival was 31 percent (Jones et al. 2010). Data from resighting of banded adults indicate that chestnut-collared longspur can survive for at least 4 years (Bleho et al. 2015).

B.4.2.5. Distribution

Chestnut-collared longspur is restricted to mixed-grass prairies. Populations are discontinuous, corresponding to the fragmented distribution of these habitats in the Great Plains. Chestnut-collared longspur exhibits a patchy distribution within the larger grassland landscape, corresponding with the availability of locally suitable sparse grass habitats (Lipsey 2015). Breeding populations are most numerous in southern Alberta, north-central Montana, central North Dakota and north-central South Dakota (Sedgwick 2004a). Optimal breeding habitat for chestnut-collared longspur occurs primarily in north-central Montana (Figure 4; MTNHP 2011), although the species occurs throughout eastern Montana in suitable habitats.

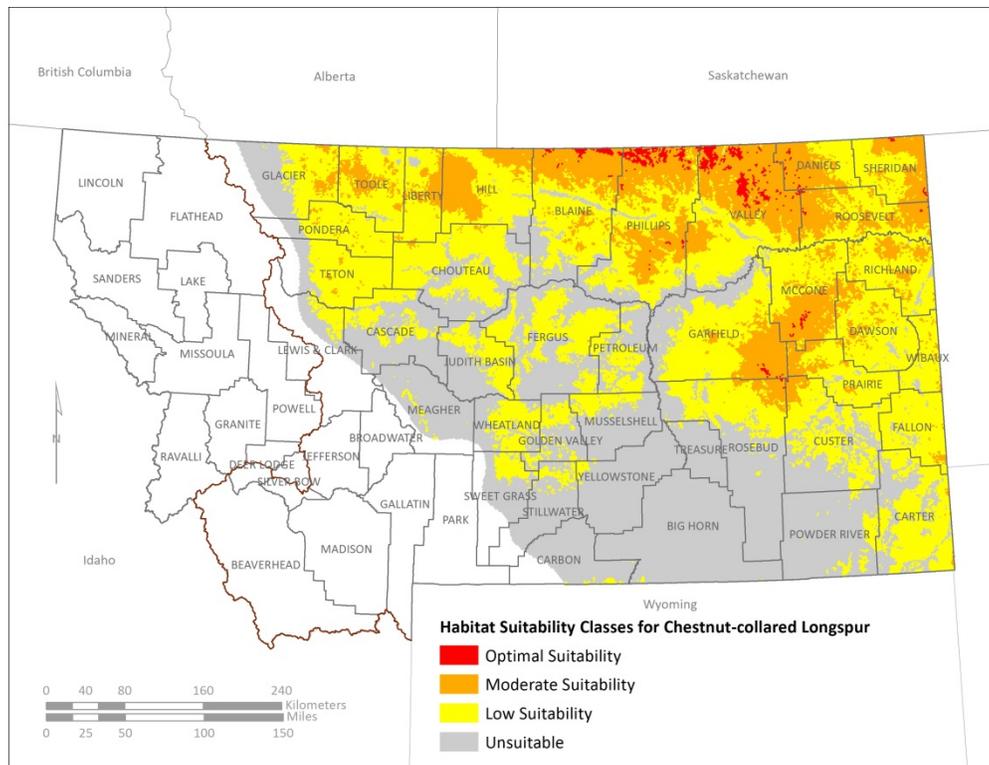


Figure 4. Predicted suitable habitat model for chestnut-collared longspur (MTNHP 2016b).

B.4.3. Sprague's Pipit

Sprague's pipit is a small, slender songbird with a narrow bill. Males and females are similar in appearance with a buffy crown, nape, and upperparts streaked with black. Face is buffy with a white eye ring, giving a large-eyed appearance. Underparts are whitish and finely streaked with black. The outer tail feathers are white.

Sprague's pipit is a grassland specialist endemic to the mixed-grass prairie of the northern Great Plains. This species relies on large areas of contiguous grasslands and is more closely associated with native grasslands than non-native grasslands (Davis et al. 2014a).

B.4.3.1. Food Habits

Adults feed primarily upon arthropods throughout the breeding season, as well as during migration and on the wintering grounds (Davis et al. 2014a). Some seeds may be taken in late winter (Jones 2010). Sprague's pipit forages on the ground, gleaning insects from the ground and from vegetation. Young are fed arthropods (Davis et al. 2014a).

B.4.3.2. Breeding

In Montana, Sprague's pipit arrives on the breeding grounds in late April to early May. Males maintain breeding territories through a unique aerial display in which they sing from heights of

50-100 m (164-328 ft). Breeding pairs are monogamous (Davis et al. 2014a). The breeding season ranges from May 7-August 25 (Jones et al. 2010).

B.4.3.3. Nesting and Brood-rearing

Nests are located in areas of relatively dense vegetation and placed in a hollow depression excavated by the female, in a natural depression, or in a cattle hoof print. The nest is constructed of grasses woven into a cup, and taller grasses near the nest are interwoven with loose grasses to form a dome over the next cup (Davis et al. 2014a). Clutch size is typically 4-5 eggs. Incubation lasts 12-15 days. Incubation and brooding of young nestlings is done primarily by the female. Both adults feed nestlings until they leave the nest at about 13 days old (Jones et al. 2010). Recently fledged young remain within 100 m (328 ft) of the nest. Fledglings are fed by both parents. Initiation of second broods after successfully fledging young or after initial nest failure is apparently uncommon in Sprague's pipit (Jones et al. 2010).

B.4.3.4. Survival

In north-central Montana, overall nest survival for Sprague's pipit was estimated at 27 percent (Jones et al. 2010). Data on a recaptured adult male indicate Sprague's pipits can live for at least 4 years (Davis et al. 2014a).

B.4.3.5. Distribution

Sprague's pipit breeding populations are restricted to the mixed-grass prairie of the northern Great Plains. Highest pipit densities occur in southeastern Alberta, southwestern and south-central Saskatchewan, and in north-central Montana. Approximately 63 percent of the U.S. breeding population of Sprague's pipit occurs in Montana (Lipsev et al. 2015). In Montana, optimal breeding habitat for Sprague's pipit occurs in north-central Montana (Figure 5; MTNHP 2012), although the species occurs throughout eastern Montana in suitable habitats.

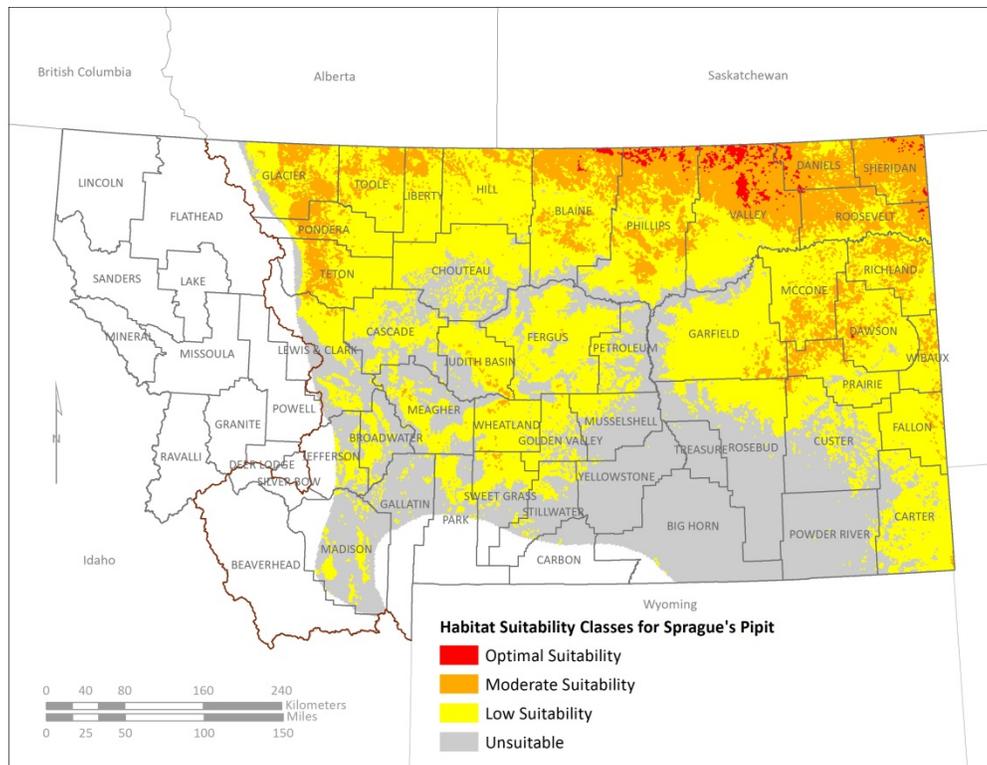


Figure 5. Predicted suitable habitat model for Sprague's pipit (MTNHP 2016d).

B.4.4. Baird's Sparrow

Baird's sparrow is a small, brownish, streaked sparrow with a flat-headed appearance and a heavy bill. Males and females are similar in appearance. Adults have a yellowish color on the head, particularly over the eye and on the crown, dark mustache and throat stripes, and a buffy neck collar streaked with black. Upperparts are a mix of blackish and pale brownish markings; underparts are whitish with blackish streaking on the breast and sides (Green et al. 2002).

Baird's sparrow requires large, intact grassland landscapes with dense vegetative cover. Abundance of this species tends to decline with increasing livestock grazing intensity (Lipsev and Naugle 2017).

B.4.4.1. Food Habits

Adults feed upon arthropods during the breeding season as well as a variety of seeds throughout the year. Nestlings are fed invertebrates (Green et al. 2002).

B.4.4.2. Breeding

In north-central Montana, male Baird's sparrows typically arrive on the breeding grounds in late April or early to mid-May; females arrive about 3-7 days after males. Breeding pairs are

apparently monogamous (Green et al. 2002). In Montana, the breeding season occurs from May 14-August 10 (Jones et al. 2010).

B.4.4.3. Nesting and Brood-rearing

Nests are located in areas of relatively dense vegetation and placed in a hollow depression excavated by the adult, in a natural depression, or in a cattle hoof print. The outer lining of the nest is constructed of grasses and forb stems and leaves and lined with fine grasses and rootlets (Green et al. 2002). Clutch size is typically 4-5 eggs. Incubation lasts on average 11 days (Jones et al. 2010). Incubation and brooding of young nestlings is done by the female. Both adults feed nestlings until they leave the nest at about 10 days old (Jones et al. 2010). Second broods are initiated after young have fledged from the previous nest (Green et al. 2002).

B.4.4.4. Survival

Overall nest survival of Baird's sparrow in north-central Montana was estimated at 32 percent (Jones et al. 2010). Little information exists regarding survivorship and life span for this species.

B.4.4.5. Distribution

Baird's sparrow breeds in suitable grassland habitats in southern Alberta, Saskatchewan, and southwestern Manitoba south into eastern Montana, North Dakota, and northwestern South Dakota. In Montana, optimal breeding habitat for Baird's sparrow is in north-central and northeastern Montana (Figure 6; MTNHP 2011). In north-central Montana, Baird's sparrow distributions were dispersed relatively uniformly throughout grasslands of dense cover, corresponding to periods of high precipitation in the region (Lipsey 2015).

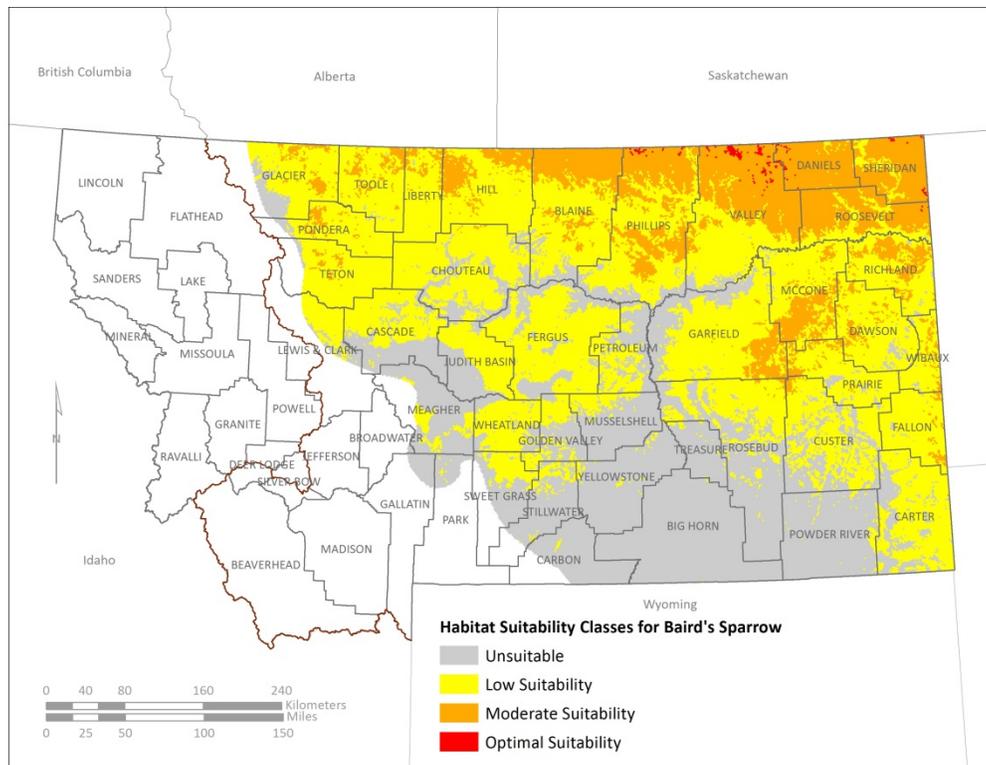


Figure 6. Predicted suitable habitat model for Baird's sparrow (MTNHP 2016a).

B.5. Threats and Limiting Factors

The greatest threat to all species covered under this Programmatic CCAA is loss of habitat due to conversion, degradation, or fragmentation. As sagebrush obligates, sage-grouse are eliminated with the loss of sagebrush habitat. Habitat degradation and fragmentation contributes to functional habitat loss, as sage-grouse avoid areas of persistent human disturbance even in areas where sagebrush remains intact. Fragmentation of sagebrush habitats can result in reductions in lek persistence and attendance, population recruitment, juvenile and adult survival, availability of suitable nest sites, and a complete loss of leks and winter habitat (Holloran 2005; Aldridge and Boyce 2007; Walker et al. 2007; Doherty et al. 2008). Conifer encroachment into sagebrush habitats can reduce habitat suitability for sage-grouse (Baruch-Mordo et al. 2013).

The declining grassland songbirds covered under this Programmatic CCAA are area-sensitive, relying upon large, contiguous areas of intact native grasslands (Davis et al. 2013, Lipsey and Naugle 2017). Large landscapes capture the diverse local-scale habitat conditions required by these grassland songbirds (Lipsey and Naugle 2017). Although the rate of cropland conversion has declined in recent years, direct loss of native grasslands through conversion to agriculture remains a threat to grassland songbirds and their habitats. Habitat loss is further exacerbated by habitat fragmentation, which can make existing habitats unsuitable through avoidance of habitat edges (Koper et al. 2009). Fragmentation of grasslands due to roads and trails (Dale et al. 2009, Ludlow et al. 2015, Thompson et al. 2015), cropland edges (Sliwinski and Koper 2012),

and woody plantings associated with shelterbelts (Grant et al. 2004, Kelsey et al. 2006, Ellison et al. 2013) result in avoidance of otherwise suitable habitats by many grassland songbird species. Additionally, reductions in habitat quality through the introduction and spread of exotic grasses such as crested wheatgrass can result in reduced abundance of some grassland songbird species (Davis and Duncan 1999, Davis et al. 2013) and reduced reproductive success (Fisher and Davis 2011, Lloyd and Martin 2005, Ludlow et al. 2015).

Livestock grazing is the dominant land use in native sagebrush and grassland systems, playing an important role in preventing conversion of these systems to cropland. However, grazing management that is inconsistent with local site conditions can degrade habitat quality for the covered species by reducing both height and cover of native vegetation. Improper livestock grazing management can also contribute to soil compaction and disturbance, reducing the cover of native vegetation and reducing the resistance of these sites to invasion by exotic plant species. Non-native, invasive plant species can modify native plant community composition, structure, and productivity (DiTomaso et al. 2010), altering ecological processes and disturbance regimes (Vitousek 1990) and reducing habitat suitability for the covered species (Davis and Duncan 1999, Leu, et al. 2008, Miller et al. 2011, Davis et al. 2013). Range management structures such as stock ponds (Sika 2006) and fences (Stevens et al. 2012) pose both direct and indirect threats to the covered species. Other agricultural activities such as mowing and haying can result in direct mortality and a reduction in breeding habitat for the covered species (Dechant et al. 2001, 2002, Wiggins 2006).

Specific key threats related to ranching and agricultural activities addressed under this Programmatic CCAA are discussed in Section 2.2; conservation measures addressing these key threats are detailed in Section 3.2.

Appendix C: Herbicides and Best Management Practices

Loss of both habitat quantity and quality due to non-native, invasive plant species is a major threat to sage-grouse and declining grassland songbirds. Use of herbicides, alone or in combination with other methods, can provide an appropriate and effective means to control these plant species and prepare sites for restoration.

The list of herbicides covered under this Programmatic CCAA includes 21 herbicides (Table 1). The BLM consulted with the Service to determine the effects of eighteen of these herbicides on threatened and endangered species, species proposed for listing, and their critical habitats under the BLM Vegetation Treatments Using Herbicides on BLM lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) and related Record of Decision (2007). The Service concurred with the BLM's determination that use of these herbicides is not likely to adversely affect threatened and endangered species, species proposed for listing, or their critical habitats. The BLM is currently undergoing consultation with the Service on three additional herbicides (aminopyralid, rimsulfuron, and fluroxypyr), which are of lower toxicity than several herbicides currently approved for use (Final Programmatic EIS, April 8, 2016). The registration, distribution, sale, and use of pesticides are regulated via the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). FIFRA requires that all pesticides be used in accordance with the label, which is a legal document. Herbicides may only be used for the objectives and type of vegetation for which they are registered, as displayed on the label. The following Best Management Practices (BMPs) will be followed by all participating landowners under this CCAA: (adapted from BLM PEIS Standard Operating Procedure 2007 and BLM PEIS Record of Decision 2007).

1. Follow herbicide product label requirements and restrictions for use and storage.
2. Select the herbicide that is least damaging to the environment while providing the desired results.
3. Apply the minimum amount of herbicide needed to achieve the desired result.
4. To minimize risks to terrestrial wildlife, do not exceed typical application rates, where feasible.
5. Conduct a pretreatment survey before applying herbicides. This may include identifying the noxious or invasive plant species are present, flagging areas for treatment, and defining the boundaries of the treatment area.
6. On native rangelands, minimize the size of the application area and use spot applications where possible to limit impacts to non-target plants.
7. Do not use bromacil or diuron, both of which are non-selective herbicides, in native rangelands to avoid impacts to non-target plant species.
8. Clean vehicles used in infested areas to remove seeds and any herbicide residue.
9. Establish and follow appropriate, herbicide-specific buffer zones when available to minimize risk to non-target plant species and aquatic resources from off-site drift.
10. To minimize disturbance to the covered species, do not conduct broadcast applications from March 1-July 15 unless required for optimal herbicide effectiveness for the target plant species.

Throughout the 20-year life of this Programmatic CCAA, technological advances for the control of invasive plant species will be developed for use on rangelands. As such control mechanisms are approved by the U.S. Environmental Protection Agency (EPA), they will also be considered for use under this CCAA to improve habitat for the covered species. Use of additional herbicides not listed in Table 1 will require additional risk assessment and modification of the CCAA consistent with **Section 12**:

Modifications and Permit Amendments.

Herbicides are categorized as selective or non-selective. Selective herbicides are effective against certain types of plants (e.g., broad-leaved plants only). Non-selective herbicides are effective against all types of plants and care must be taken to apply these only to the target species.

Table 1. Herbicides covered under the Montana Greater Sage-grouse and Declining Grassland Songbirds Programmatic CCAA.

Herbicide	Approved for use on rangelands	Selectivity*	Plant type, if selective, and common target plants
2,4-D	Y	Y	Forbs (e.g., Russian thistle, <i>Kochia</i>)
Bromacil		N	
Chlorsulfuron	Y	Y	Forbs (e.g., thistles, toadflax)
Clopyralid	Y	Y	Forbs (e.g., thistles, knapweeds) forbs and woody plants (e.g., knapweeds, <i>Kochia</i> , thistles)
Dicamba	Y	Y	thistles)
Diflufenzopyr + Dicamba	Y	Y	Forbs (e.g., knapweeds, <i>Kochia</i> , thistles)
Diquat		N	
Diuron		N	
Fluridone		Y	submersed aquatic plants (e.g., milfoil)
Glyphosate	Y	N	
Hexazinone	Y	N	
Imazapic	Y	Y	some grasses, some forbs (e.g., cheatgrass, leafy spurge)
Imazapyr	Y	N	
Metsulfuron methyl	Y	Y	some forbs, some grasses (e.g., mustards) forbs and woody plants (e.g., knapweeds, leafy spurge)
Picloram	Y	Y	
Sulfometuron methyl		N	
Tebuthiuron	Y	N	
Triclopyr	Y	Y	forbs and woody plants (e.g., Canada thistle)
Aminopyralid	Y	Y	Forbs (e.g., thistles, knapweeds)
Fluroxypyr	Y	Y	forbs and woody plants (e.g., black henbane)
Rimsulfuron	Y	Y	annual grasses (e.g., cheatgrass)

* Selective herbicides are effective against certain types of plants (e.g., broad-leaved plants only). Non-selective herbicides are effective against all types of plants and care must be taken to apply these only to the target species.

Appendix D. Compliance Monitoring Report for Montana Greater Sage-grouse and Declining Grassland Songbirds Programmatic Candidate Conservation Agreement with Assurances

Annual Compliance Monitoring Report:

The purposes of compliance monitoring are to: (A) demonstrate that all of the key threats present on the enrolled property are being addressed through (B) implementation of the Conservation Measures agreed upon in the CCAA; and (C) to track and report any incidental take of the covered species.

A. Potential Threats to the Covered Species and Their Occurrence on the Enrolled Property

Threat	Present on the Enrolled Property?	
	Yes	No
1. Habitat Loss and Fragmentation		
2. Livestock Grazing Management Inconsistent with the Needs of the Covered Species		
3. Non-native, Invasive Plant Species (including noxious weeds)		
4. Haying/Mowing and Seed Harvest		
5. Range Management Structures		
6. Conifer Encroachment		
7. Tree Rows and Windbreaks		
8. Infrastructure		
9. Fences		
10. Insecticides		
11. Roads		
12. Recreation		

B. Implementation of Conservation Measures on the Enrolled Property (Compliance Monitoring)

For each of the threats and associated conservation measures listed below, mark “Yes” or “No” to indicate if the measure was implemented. Where a particular conservation measure was not agreed to in your Certificate Inclusion, or where a measure does not apply to your property, please select "N/A". Please also provide a brief description of the steps taken to implement the conservation measures.

1. Habitat Loss and Fragmentation:

Conservation Objective: Maintain or increase existing native grassland/sagebrush steppe habitat quantity and habitat quality for the Covered Species.

Conservation Measures	Yes	No	N/A
1.1. Maintain contiguous habitat by undertaking no new activities that would result in habitat loss or fragmentation (e.g., do not convert native grasslands or sagebrush habitat to cropland or tame pasture/hayland; do not further subdivide, develop, or fragment existing native grassland or sagebrush habitats). If property owner enters into a conservation easement or lease, the term of the easement or lease must match or exceed the duration of the CI. Terms of the easement or lease should address: subdivision or development; removal or manipulation of native vegetation; and draining, filling, dredging, or impounding any wetland or riparian area.			
1.2. Do not eliminate sagebrush habitats. Work with agency specialists to determine if sagebrush treatments to implement habitat improvements are needed and appropriate. Adhere to any resulting agreed-upon plan for implementing such treatments.			
1.3. Do not drain, fill, dredge, or impound wetlands or riparian areas, unless prior written approval is granted.			

Provide a brief description of any steps taken to avoid habitat loss and fragmentation, as well as the number of acres of contiguous grassland and/or sagebrush-steppe:

2. Livestock Grazing Management Inconsistent with the Needs of the Covered Species:

Conservation Objective: Maintain or improve current native vegetation cover, accounting for soils and corresponding ecological site potential, to provide sage-grouse and/or declining grassland songbird habitats.

Conservation Measures	Yes	No	N/A
<p>2.1. Develop a grazing management plan, implemented and evaluated annually, that maintains or enhances the existing native plant community to ensure suitable habitats for the Covered Species relative to the soils and corresponding ecological site potential on the enrolled property. Grazing management plans applied to native rangelands will be developed based on field data and appropriate ecological site descriptions and NRCS stocking rate recommendations.</p>			
<p>2.2. Avoid grazing the same native pasture or key seasonal habitat (e.g., late brood rearing) in the same season (i.e., spring, summer, or fall) for more than two consecutive years.</p>			
<p>2.3. Do not feed hay in native grassland except where supplemental feeding is allowed as part of an approved ranch plan. Monitor supplemental feeding areas to ensure that non-native plant species do not become established or increase in cover.</p>			
<p>2.4. Use the NRCS Riparian Assessment Method to determine the stability and sustainability of riparian areas. Manage grazing in wetlands and riparian areas to ensure stream channel stability and maintenance of wetland and riparian vegetation. If necessary, exclude livestock from these areas with temporary fencing where excessive use is causing damage to vegetation or bank stability.</p>			
<p>2.5. Develop stock water facilities as needed to reduce impacts to wetlands and riparian areas. Any necessary and new livestock water facilities will be constructed in uplands using methods such as pipelines, tanks, water gaps, or mobile water systems to provide high quality water for livestock while avoiding excessive, unplanned disturbance to wildlife habitat. Any impacts to wetland or riparian function will be avoided or minimized.</p>			
<p>2.6. Where possible, restore any drained wetlands or degraded streams and riparian areas.</p>			
<p>2.7. Use rotational grazing practices that promote a variety of vegetation structures in grassland habitat. Adjust livestock use (timing and frequency, stocking rates, and duration), as appropriate, to create variety in vegetative structure that provides diverse grassland habitat for multiple species with diverse habitat requirements.</p>			
<p>2.8. Adjust livestock use to reduce the canopy cover and structure of non-native forbs such as alfalfa and yellow sweet clover, and non-native grasses such as crested wheatgrass, annual bromes, smooth brome, and Kentucky bluegrass. For example, targeted early-season grazing can be used alone or in combination with prescribed burning.</p>			

Provide a brief description of any steps taken to avoid or minimize livestock impacts to habitats for the covered species:

Attach your current grazing management plan:

Conservation Objective: Avoid and minimize disturbance to sage-grouse breeding and nesting activities.

Conservation Measures	Yes	No	N/A
2.9. Avoid livestock husbandry activities, such as branding and round-ups, within 0.6 miles of active sage-grouse leks from March 1 through July 15, unless such actions occur within existing corrals. Livestock turnout and trailing should be timed and located to avoid concentrating livestock on leks during the breeding season.			
2.10. Avoid the use of machinery and vehicles or other disruptive activities within 0.6 miles of an active lek from March 1 through July 15. Exceptions can be made for brief disruptions essential to routine ranch activities that occur for no more than two consecutive days outside of the hours of 4:00 am – 8:00 am and 7:00 pm – 10:00 pm.			

Provide a brief description of steps taken to avoid or minimize disturbance to sage-grouse breeding and nesting activities:

Conservation Objective: Avoid and minimize disturbance to nests and young birds.

Conservation Measures	Yes	No	N/A
2.11. Avoid off-road vehicular travel in breeding habitat between March 1 and July 15 unless such travel is essential for routine ranch activities (e.g., herding or trailing livestock, repairing fence, doctoring livestock, irrigation activities, etc.).			

Provide a brief description of any steps taken to avoid or minimize disturbance to nests and young birds:

Conservation Objective: Minimize impacts of salt and other supplement placements to breeding or late brood-rearing sage-grouse habitats.

Conservation Measures	Yes	No	N/A
2.12. Place salt and other supplements at least 0.25 miles from riparian areas and other late brood-rearing habitats. Avoid placing salt and other supplements on or adjacent to an active lek from March 1 to May 15.			

Provide a brief description of any steps taken to minimize impacts of salt and other supplement placements on sage-grouse habitats:

Conservation Objective: Minimize impact of cattle congregating near leks while active.

Conservation Measures	Yes	No	N/A
2.13. Move salting locations as necessary to minimize impacts to vegetation, except in instances where salting location is part of an effort to control invasive plants (e.g., placed repeatedly in areas dominated by crested wheatgrass).			

Provide a brief description of any steps taken to minimize impacts of salt and other supplement placements on sage-grouse habitats:

3. Non-native, Invasive Plant Species (including noxious weeds):

Conservation Objective: Minimize the introduction or spread of invasive and/or noxious weed species that reduce habitat quality for the Covered Species.

Conservation Measures	Yes	No	N/A
3.1. Use only native seed mixes when restoring or enhancing habitats.			
3.2. Work with county and state experts (e.g., Weed Districts and/or other local experts) to ensure correct identification of noxious plant species so that any existing or new infestations can be identified. Develop a plan describing survey methods, prevention, and treatment options.			
3.3. When using herbicides, implement best management practices and use only approved herbicides listed in Appendix C on enrolled lands.			
3.4. Survey livestock concentration and wintering areas (e.g., corrals, calving lots, feedlots) for invasive or noxious plant species. Treat as necessary with approved herbicides to prevent spread of these species through hay and/or manure.			
3.5. Monitor for increasing cover of non-native annual grasses (e.g., Japanese brome), particularly near infested rangelands. If necessary, develop a work plan with the appropriate Cooperators to control these species.			

3.6. When appropriate, inspect and clean any vehicle or machinery that has been used in areas containing invasive or noxious plant species.			
3.7. Monitor any areas affected by prescribed fire or wildfire for new invasions by noxious or invasive plant species. Prevention and treatment options will be tailored to each enrolled property.			
3.8. Report any new noxious weed infestations to the appropriate Cooperators.			
3.9. Monitor enrolled properties for presence of non-native forbs (e.g., yellow sweet clover, alfalfa) and non-native grasses (e.g., Kentucky bluegrass, smooth brome, crested wheatgrass, annual bromes). Work with range specialists and/or other local experts as necessary to implement treatments where these species contribute to declining rangeland condition. For example, treatments such as early-season grazing with or without prescribed burning, can limit the seed production and spread of non-native pasture grasses.			

Provide a brief description of any steps taken to: minimize the introduction or spread of invasive and/or noxious weed species, treat existing infestations, and monitor for new infestations of non-native and/or noxious plant species:

If new non-native or noxious plant species were identified this year on the enrolled property, then list these plant species here:

Conservation Objective: Restore marginal cropland and/or monotypic crested wheatgrass stands to facilitate recovery of sagebrush and/or native grassland habitats for the Covered Species.

Conservation Measures	Yes	No	N/A
3.10. Reduce the cover of non-native, perennial grasses through a combination of appropriate treatments (livestock grazing, prescribed fire, mechanical treatments, or approved herbicides) to facilitate the establishment and persistence of native plant species.			
3.11. Where ecologically appropriate and beneficial, restore multiple, site-appropriate native species to grasslands dominated by monotypic stands of non-native, perennial grasses (e.g., crested wheatgrass). Prioritization should be given to areas with adequate cover of native plant species and those areas adjacent to existing native sagebrush and grassland habitats. Rest newly seeded/planted areas from livestock use for at least two years.			

If restoration projects were implemented on the enrolled property, provide a brief description of the steps taken to restore marginal cropland or monotypic crested wheatgrass stands:

4. Haying/Mowing and Seed Harvest:

Conservation Objective: Avoid direct mortality of the Covered Species due to haying/mowing or seed harvest.

Conservation Measures	Yes	No	N/A
4.1. On native grasslands, do not hay until after July 15.			
4.2. Employ wildlife-friendly haying methods such as: (1) use of a flush bar attachment on mowers; (2) mowing during daylight hours; or (3) using a haying pattern that begins in the center of the field and works outward.			
4.3. In years where productivity of native grasslands allows for harvesting of native grass seed, seed harvest before July 15 should not exceed 1/4 of the total grassland acreage on the enrolled property.			

Provide a brief description of any steps taken to avoid direct mortality of the covered species due to haying/mowing or seed harvest:

Conservation Objective: Reduce seed production, dense vegetation, and litter associated with tame grass pastures to increase suitability of these pastures for grassland songbirds.

Conservation Measures	Yes	No	N/A
4.4. Avoid idling tame pastures (i.e., planted with non-native pasture grasses and forbs) for more than one year. Exceptions could be made for lands enrolled in Conservation Reserve Program (CRP) contracts or other conservation programs that limit management options.			

Provide a brief description of any steps taken to reduce dense vegetation and litter associated with tame grass pastures:

5. Range Management Structures:

Conservation Objective: Reduce risk of mortality due to drowning for the Covered Species.

Conservation Measures	Yes	No	N/A
5.1. Install and maintain wildlife escape structures on new and existing livestock troughs/tanks. Maintain high water levels in water troughs/tanks when in use.			

Provide a brief description of any steps taken to reduce risk of mortality to drowning for the covered species, including the number and location of wildlife escape structures installed:

Conservation Objective: Reduce the impact of range management structures on habitat quality for the Covered Species.

Conservation Measures	Yes	No	N/A
5.2. Remove or modify infrastructure near water troughs/tanks that serve as frequently used perches for avian predators.			
5.3. Any new water developments will consider soils, invasive plants, and potential impacts to wetland and riparian condition and function.			
5.4. Remove any obsolete structures.			
5.5. Avoid constructing new livestock handling facilities (e.g., corrals, etc.) within 1.2 miles of an active lek unless doing so directly benefits sage-grouse habitats (e.g., consolidates or reduces the number of structures).			
5.6. Modify existing spring developments to maintain free-flowing water and associated mesic/wetland vegetation to provide late brood-rearing habitat.			

Provide a brief description of any steps taken to reduce the impact of range management structures on habitat quality for the covered species:

6. Conifer Encroachment:

Conservation Objective: Maintain suitable sage-grouse habitat by removing conifers that have encroached into sage-grouse habitats.

Conservation Measures	Yes	No	N/A
6.1. Where practicable, remove all conifers where the ecological site suggests that conifers are expanding into sage-grouse habitats. At a minimum, remove all conifers within 0.6 miles of active sage-grouse leks. Prioritize conifer removal for areas in the early stages of conifer encroachment (Phases I and II). Prioritize the use of mechanical treatments to remove conifers in all sagebrush systems. Use only mechanical treatments in lower elevation, xeric Wyoming big sagebrush communities. Prescribed fire could be considered in high-elevation, mesic sagebrush but only if it can be shown to benefit sagebrush habitats.			

6.2. If prescribed fire is selected as a treatment option in high elevation, mesic sagebrush, then a Burn Plan must be developed that discusses alternative techniques not selected as a viable treatment option; how sage-grouse goals and objectives would be better met by the use of prescribed fire; how prescribed fire meets the objectives of the COT report, and a risk assessment to address how potential threats to sage-grouse habitat would be minimized.			
6.3. Any conifer removal treatment should include measures to control invasive or noxious plant species. If current perennial understory plant community is in poor condition, seed treatment areas with native seed mixes.			
6.4. For Phase I areas, conifers may be felled and left on site. Branches on felled trees should be limbed to the height of the existing sagebrush canopy and scattered.			
6.5. For Phase II areas, felled trees may need to be burned. Jackpot burning, where only the slash is burned but the surrounding vegetation remains intact, is the preferred method. Burning should occur when soils are frozen, if possible.			
6.6. Ensure that the timing of conifer treatments does not interfere with sage-grouse breeding or other seasonal habitats or seasonal movements. Timing stipulations will be tailored to individual enrolled properties.			

If conifer treatments were implemented, provide a brief description of the treatments and their approximate size and location:

7. Tree Rows and Windbreaks:

Conservation Objective: Maintain suitable habitat for the Covered Species by removing existing and/or not planting woody vegetation such as linear tree rows and other shelterbelts/windbreaks.

Conservation Measures	Yes	No	N/A
7.1. Do not plant woody vegetation within 0.6 miles of an active sage-grouse lek or within 800 feet of native grasslands.			
7.2. Remove existing woody plantings, including isolated plantings within the interior of native grasslands. Prioritize removal of linear plantings, as these plantings impact a greater area of grassland habitat. Exceptions could be made for lands enrolled in CRP contracts or other conservation programs that limit management options.			

If existing woody plantings were removed, describe the amount and location:

8. Infrastructure:

Conservation Objective: Maintain intact native sagebrush and grassland plant communities by avoiding fragmentation of suitable habitats associated with infrastructure such as power lines and communication towers. This will also reduce the potential for introduction of non-native, invasive plant species as well as the potential to attract predators.

Conservation Measures	Yes	No	N/A
8.1. Do not construct or allow the construction of wind towers, communication towers, or commercial solar projects on enrolled lands.			
8.2. Remove any abandoned or unused buildings, power poles, and other structures in native sagebrush or grassland habitats.			
8.3. Work with utility provider to retrofit existing power lines in suitable sage-grouse and grassland songbird habitats to reduce perching by avian predators.			
8.4. Remove any dumps, rock piles, and garbage within sage-grouse and grassland songbird habitats to discourage predators.			
8.5. Avoid aboveground construction of, or bury, new power lines in native sagebrush and grassland habitats. If construction of aboveground power lines in these habitats is unavoidable due to impacts to operation viability, existing facility locations, eminent domain, terrain, or similar constraints, then consolidate new and necessary power lines with existing disturbances such as power line corridors and roads to the maximum extent practicable. If new and necessary power lines cannot be consolidated with existing disturbances, then locate any such power lines as far as possible from native sagebrush and grassland habitats and at least 0.6 miles from active sage-grouse leks.			

Provide a brief description of any steps taken to avoid fragmentation of suitable habitats associated with infrastructure:

9. Fences:

Conservation Objective: Reduce the risk of fence collisions, reduce the availability of perching sites for avian predators, and avoid fragmentation of suitable habitats for the Covered Species.

Conservation Measures	Yes	No	N/A
9.1. Avoid construction of new fences unless necessary to implement grazing management plan. Where feasible, use temporary or seasonal fencing to implement the grazing management plan.			
9.2. Modify existing fencing to discourage perching by avian predators, or remove existing fencing if no longer needed.			

9.3. Identify fences that pose moderate to high collision risk to sage-grouse using existing fence collision risk tool (Stevens et al. 2013). Mark any new fences necessary for implementation of the grazing plan, as well as any existing fences, within 1.2 miles of an active lek identified as posing moderate to high collision risk.			
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Provide a brief description of any steps taken to reduce the risk of fence collisions, reduce perching sites, and avoid fragmentation associated with fences, including the amount and location of fences marked:

10. Insecticides:

Conservation Objective: Maintain insects as seasonally important food items for the Covered Species.

Conservation Measures	Yes	No	N/A
10.1. Coordinate with local agency experts concerning treatment options during insect outbreaks. Commit to using the Reduced Agent-Area Treatment (RAAT; Lockwood and Schell 1997) approach and other protocols to avoid and minimize the effects of pesticides.			
10.2. Avoid spraying insecticides, which can reduce insect availability during the breeding season for both young and adults of the Covered Species, until July 15 except in limited circumstances. Limited circumstances may include insect outbreaks that substantially impact operations.			
10.3. Establish a no treatment buffer for insecticide use within active sage-grouse leks or known brood-rearing areas.			

If you applied insecticides, briefly describe any steps taken to avoid and minimize impacts to food items for the covered species:

11. Roads:

Conservation Objective: Reduce the impacts of roads, which fragment otherwise suitable habitats and diminish habitat quality through the introduction of non-native, invasive plant species.

Conservation Measures	Yes	No	N/A
11.1. Avoid building new roads in sagebrush and native grassland habitats outside of existing disturbed areas or corridors (see CM 1.1).			
11.2. Reduce the cover of non-native, invasive vegetation along any new and existing roads using grazing, prescribed fire (grasslands only), and/or chemical treatments, if possible.			

11.3. When revegetating along any new and existing roads, use appropriate native seed mixes.			
11.4. Avoid upgrading existing roads (e.g., paving dirt roads, grading two-track roads), especially within intact sagebrush and grassland habitats. Maintenance of existing roads is permitted.			
11.5. Do not build new, raised roads within 1,000 feet of native sagebrush and grassland habitats nor within 0.6 miles of active sage-grouse leks.			

Provide a brief description of any steps taken to reduce the impact of roads, including the size and location of any treatments of non-native vegetation and revegetation of treated areas:

12. Recreation:

Conservation Objective: Reduce disturbance or harassment of sage-grouse and declining grassland songbirds.

Conservation Measures	Yes	No	N/A
12.1. Avoid recreational OHV use in breeding, nesting, and wintering habitats for the Covered Species.			
12.2. Where feasible, discourage public off-road travel near known lek sites and brood-rearing habitats.			
12.3. Minimize human disturbance associated with recreational activities within 3.1 miles of active leks between March 1 through July 15.			
12.4. Protect known lekking and wintering areas by restricting seasonal access to these areas for recreational use with exceptions for property owners participating in MFWP Block Management and similar programs. Dates will be specified in the Certificate of Inclusion.			
12.5. Ensure that recreational visitors accessing the enrolled property during the breeding season follow MFWP's (2005) lek viewing guidelines when viewing active sage-grouse leks.			

Provide a brief description of any steps taken to reduce disturbance or harassment to the covered species due to recreational activities:

C. Annual Reporting of Incidental Take

For each observed incidence of take for any of the covered species (sage-grouse, Baird's sparrow, chestnut-collared longspur, McCown's longspur, Sprague's pipit), record the following:

Date(s):

Species taken:

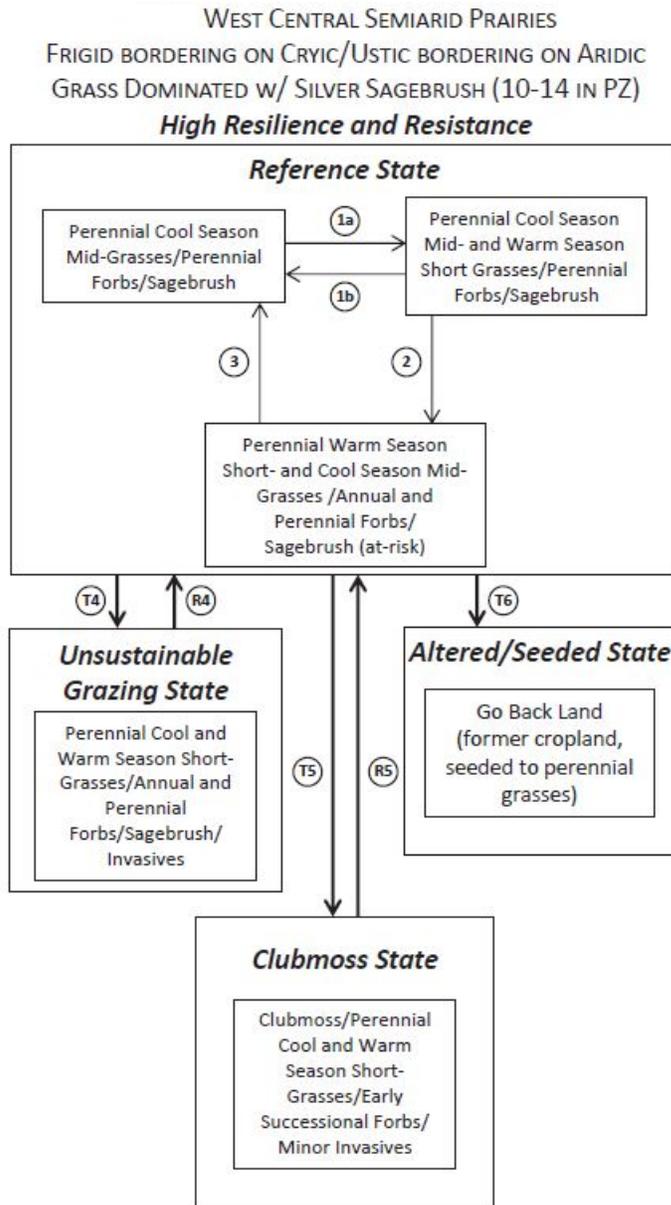
Number of individuals of each species taken:

Location and circumstances of each observed incidence of take:

DRAFT

Appendix E. Generalized State and Transition Models

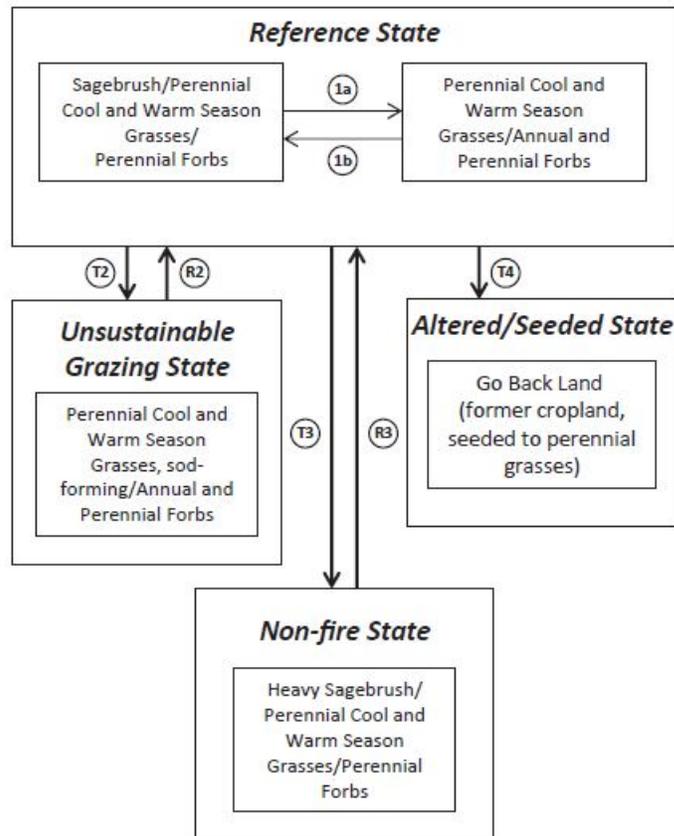
MLRA 52X



- ①a Sagebrush increases and proportion of cool season mid-grass Functional/Structural Group decreases due to disturbances such as drought (3-5 years) and spring grazing.
- ①b Normal precipitation patterns favor herbaceous understory. Grazing intensity and/or duration is reduced to allow for herb recovery.
- ② Sagebrush increases and proportion of cool and warm season mid- and short-grass Functional/Structural Groups increases due to prolonged drought (5-7 years), increased grazing intensity and duration, and lack of fire. Plant community is at-risk of leaving reference state with extended drought and continued grazing pressure.
- ③ With favorable precipitation, disturbance such as fire, and a grazing system that provides rest and recovery of preferred species, cool season mid-grass Functional/Structural Groups increase.
- ④ Extended drought (>7 years) along with high intensity and long duration grazing result in transition to a state resistant to grazing that is dominated by cool and warm season short-grass Functional/Structural Groups. Silver sagebrush cover is at its highest, and early seral forbs are present. There is potential for invasive species such as field brome in high moisture years and/or due to removal of grazing, lack of fire, and other conditions causing accumulation of excessive litter.
- ④a Normal precipitation patterns, fire or fire surrogates (herbicides and/or mechanical treatments), and a grazing regime with proper timing and intensity that varies season of use can return the site to the reference state.
- ⑤ Extended drought (>7 years) may result in dense stands of clubmoss. However, no grazing, light grazing, and rotational grazing combined with drought can result in more rapid increase in clubmoss than drought alone. Lack of fire may contribute to this transition as well. Potential for invasives such as field brome is minor, and this transition occurs more often on older, more developed soils with an argillic horizon.
- ⑤a Extended periods of normal and above average precipitation, mechanical renovation, chemical treatment, fertilizer/manure application, seeding (if an adequate seedbank does not exist), fire, and/or periods of rest or light grazing can return the site to the reference state.
- ⑥ Former cropland seeded to introduced and/or native perennial grasses, largely funded by government programs. In the 1960-1970s seedings were primarily introduced species such as crested wheatgrass, intermediate wheatgrass, and smooth brome. From 1985 to present both introduced and native species were used, mainly under the Conservation Reserve Program. Sagebrush is largely absent from this state. There is potential for invasive species such as field brome in high moisture years and/or due to removal of grazing, lack of fire, and other conditions that would result in an accumulation of excessive litter.

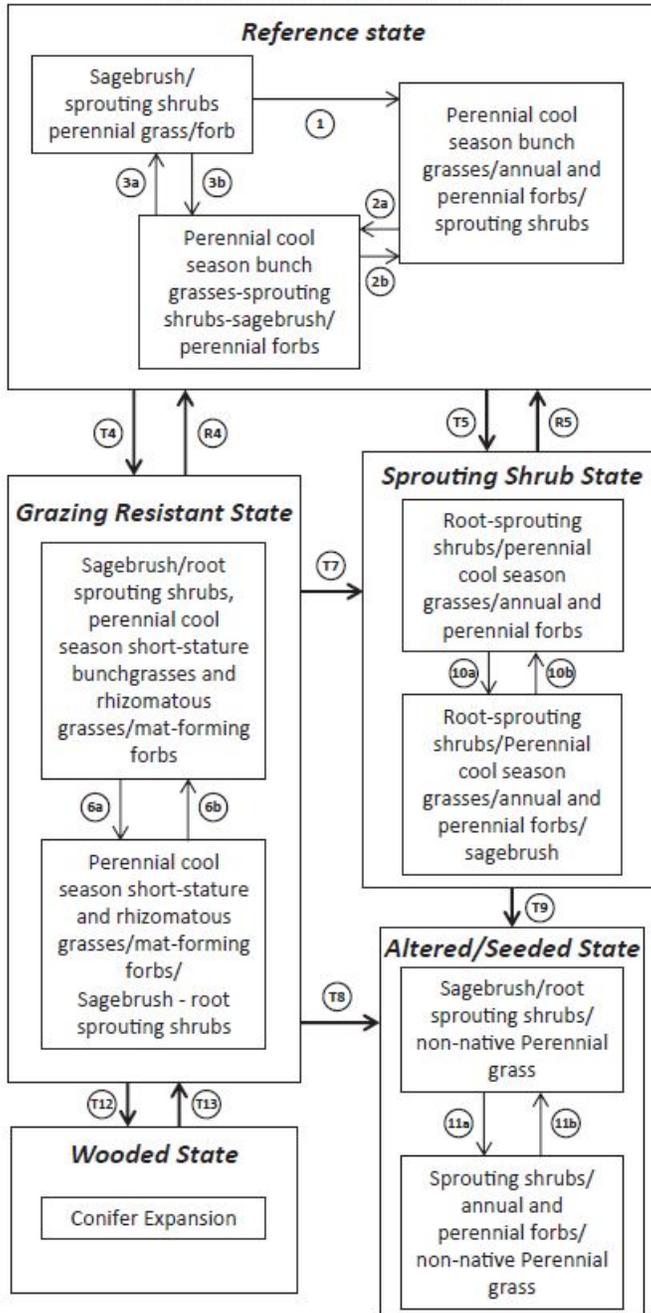
MLRA 58A and MLRA 60B

WEST CENTRAL SEMIARID PRAIRIES
FRIGID/USTIC BORDERING ON ARIDIC
WYOMING BIG SAGEBRUSH (10-14 IN PZ)
Moderate to High Resilience and Resistance



- ①a Sagebrush decreases due to fire and normal precipitation patterns that favor the herbaceous understory. Grazing intensity and/or duration is reduced to allow for herbaceous recovery.
- ①b Sagebrush increases and proportion of cool season grasses decrease due to disturbances such as drought and grazing, along with a lack of disturbances such as fire.
- ② T2 Prolonged drought, improper grazing, and frequent sagebrush control using fire or fire surrogates (herbicides and/or mechanical treatments) will result in transition to a grazing resistant state dominated by warm and cool season short- and sod-forming grass Functional/Structural Groups and undesirable species such as prickly pear cactus. Invasive species (e.g., cheatgrass, field brome) can occur in disturbed areas. Field brome invasion can occur in undisturbed rangelands at the upper end of the precipitation range.
- ② R2 Normal precipitation patterns, reducing the frequency and severity of disturbances that kill sagebrush, and proper timing and intensity grazing regime that varies season of use can return the site to the reference state.
- ③ T3 Extended drought, frequent and severe grazing, and removal of fire and fire surrogates (herbicides and/or mechanical treatments) will result in transition to a state dominated by sagebrush with minor warm and cool season short-grass and forb Functional/Structural Groups. Invasion can occur as bare ground increases in sagebrush canopy interspaces in disturbed areas.
- ③ R3 Extended periods of normal precipitation, treatment with fire surrogates, seeding (if adequate seedbank does not exist), and reduced grazing pressure that varies season of use can return the site to the reference state.
- ④ T4 Former cropland that has been seeded to introduced and/or native perennial grasses, largely funded by government programs. In the 1960-1970s seedings were primarily introduced species such as crested wheatgrass, intermediate wheatgrass, and smooth brome. From 1985 to present both introduced and native grasses were used, mainly under the Conservation Reserve Program. Sagebrush is largely absent.

WESTERN CORDILLERA – CRYIC/TYPIC USTIC
MOUNTAIN BIG SAGEBRUSH/
MIXED MOUNTAIN SHRUBS (15 -19 IN + PZ)
High Resilience and Resistance



- ① Perennial grass, forbs and sprouting shrubs increase and dominate due to disturbances that decrease sagebrush, primarily wildfire.
- ②a Sagebrush and other shrubs increase with time until co-dominant with herbaceous species.
- ②b Perennial grass, forbs, and sprouting shrubs increase due to disturbances that decrease sagebrush, e.g., wildfire, insects, and disease.
- ③a Sagebrush and other shrubs increase with time.
- ③b Perennial grass, forbs, and sprouting shrubs increase due to minor disturbances that decrease sagebrush like cool fire, insects, and disease.
- ④ Continuous grazing with cattle during the critical growth period of cool season grasses results in dominance of sagebrush and an increase in grazing tolerant native forbs (e.g., lupine, pussy-toes). As bare ground increases, surface erosion (e.g., rills, sheet erosion) may occur, resulting in loss of the surface soil horizon, and pedestalled plants.
- ④ R4 Sagebrush treatment via chemical, mechanical, or prescribed fire combined with a grazing system that allows periodic deferment during the critical growth period can result in return to the reference.
- ⑤ T5 Increased disturbance frequency and/or intensity (e.g., fire, fire surrogates, and/or mechanical types of disturbance, and/or high density/frequency grazing) will result in dominance of root-sprouting shrubs.
- ⑤ R5 Removal of disturbances and a grazing regime that allows for adequate rest and recovery of native perennial grasses and forbs can eventually result in a return to the reference state.
- ⑥a Perennial cool season short-stature bunchgrasses and rhizomatous grasses, mat-forming forbs, and sprouting shrubs increase in dominance due to disturbances that decreased sagebrush (e.g., wildfire, insects, disease).
- ⑥b Sagebrush, non-browsed shrubs, and mat-forming forbs increase with time.
- ⑦ T7 An increase in disturbance frequency, fire, fire surrogates, mechanical types of disturbance and/or high density/frequency grazing will result in dominance of root-sprouting shrubs.
- ⑧ T8 Introduction of grazing tolerant non-native species, such as Kentucky bluegrass during homesteading days or smooth brome during reclamation results in transition to this state.
- ⑨ T9 Grazing tolerant non-native species are seeded, and disturbances are removed reducing sagebrush.
- ⑩a Sagebrush and other shrubs increase.
- ⑩b Perennial grass, forbs, and sprouting shrubs increase due to disturbances that decrease sagebrush (e.g., wildfire, insects, disease).
- ⑪a Sprouting shrubs, forbs, and non-native perennial grasses increase due to disturbances that decrease sagebrush (e.g., wildfire, insects, disease) or treatments that remove or reduce sagebrush.
- ⑪b Sagebrush and other shrubs increase.
- ⑫ T12 High levels of fuel reduction through grazing and fire suppression can lead to conifer expansion outside the normal range of variability for a site.
- ⑫ T12 Above average precipitation and/or reduced grazing pressure allow fine fuel accumulation, and the use of fire or fire surrogates can result in return to the Grazing Resistant State, but return to the Reference State is only achievable through (R4) with the appropriate grazing prescription.

Appendix F. Effectiveness Monitoring Field Data Forms

Line-point intercept (Herrick et al. 2016):

LINE-POINT INTERCEPT WITH HEIGHT DATA SHEET

Page _____ of _____

Shaded cells for calculations

Plot: _____ Line: _____ Observer: _____ Recorder: _____

Azimuth: _____ Date: _____ Intercept (Point) Spacing Interval: cm in Height: cm in

PT.	TOP LAYER	LOWER LAYERS			SOIL SURFACE	WOODY SPECIES	WOODY HEIGHT	HERB. SPECIES	HERB. HEIGHT
		CODE 1	CODE 2	CODE 3					
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

% foliar cover = _____ top layer pts (1st col) x 4 = _____ %
 % bare ground* = _____ pts (w/N over S) x 4 = _____ %
 % basal cover = _____ plant base pts (last col) x 4 = _____ %

* For NRI, bare ground occurs ONLY when Top layer = N.
 Lower layers are empty (no litter), and Soil surface = S or CY.
 Top layer codes: Species code, common name, or N (no cover).
 Lower layers codes: Species code, common name.
 HL (herbaceous litter), WL (woody litter, > 5 mm (~1/4 in diameter), NL (non-vegetative litter), VL (vagrant lichen).

UNKNOWN SPECIES CODES:
 AF# = annual forb
 PF# = perennial forb
 AG# = annual graminoid
 PG# = perennial graminoid
 SH# = shrub
 TR# = tree

SOIL SURFACE (DO NOT USE LITTER):
 R = Rock* (≥ 5 mm or ~ 1/4 in diameter)
 BR = Bedrock
 D = Duff
 M = Moss
 LC = Visible lichen on soil
 S = Soil

** Optional: use rock fragment classes in place of "R": GR (5-76 mm), CB (76-250 mm), ST (250 mm-600 mm), BY (>600 mm)

Data entry _____ Date _____ Error check _____ Date _____

Sample Vegetation Volume (Herrick et al. 2009)

Vegetation Structure Data Form

Monitoring plot: _____ Date: _____ Observer: _____ Recorder: _____

Segment 1: _____ m or ft? Segment 3: _____ m or ft? Obs A = 5 m or 15 ft before Position, along the transect

Segment 2: _____ m or ft? Segment 4: _____ m or ft? Obs B = 5 m or 15 ft after Position, along the transect

Record a "1" if >25% of the band is covered/obstructed by vegetation. Record a "0" if <25% of the band is covered/obstructed.

Line: _____	Position: _____	Position: _____	Position: _____	Position: _____	Position: _____									
Segment	Band	Obs A	Obs B	Obs A	Obs B	Obs A	Obs B	Obs A	Obs B	Obs A	Obs B			
1														
1														
1														
1														
1														
Total no. of bands												Segment total	No. of observations	Vis. obst.
2														
2														
2														
2														
2														
Total no. of bands												Segment total	No. of observations	Vis. obst.
3														
3														
3														
3														
3														
Total no. of bands												Segment total	No. of observations	Vis. obst.
4														
4														
4														
4														
4														
Total no. of bands												Segment total	No. of observations	Vis. obst.

$$\text{Visual obstruction} = 100\% \times \frac{\text{Segment total}}{\text{No. of obs.}}$$

Notes:

Average visual obstruction:



Rangeland Trend Worksheet

Pasture/Grazing Unit:

Location:

Ecological Site:

Date:

Trend Determination:

Plant Factors (circle as appropriate):

Vigor of desired key plants	Good	Fair	Poor
Decadent plants	Many	Some	None
Residual plants and litter	Abundant	Adequate	Inadequate
Nonnative/invasive plants	None	Some	Many

List nonnative/invasive plant species present:

Soil Factors (circle as appropriate):

Surface erosion	Slight	Moderate	Severe
Percent bare ground	Less than expected	Normal	More than expected

Overall Trend Rating: Toward or away from reference plant community (circle one)

Toward

Not Apparent

Away From

RIPARIAN ASSESSMENT WORKSHEET

NAME OF STREAM: _____
REACH LOC OR ID: _____ DATE: _____
ID TEAM/OBSERVERS: _____
LENGTH OF REACH: _____ LAT/LONG - BEGIN/END: _____
MAP OR QUAD NAME: _____ PHOTO #S: _____ PRIMARY LAND USE: _____
PLANT COMMUNITY: _____ ROSGEN CHANNEL TYPE: _____
BANKFULL DEPTH: _____ BANKFULL WIDTH: _____
WIDTH/DEPTH RATIO: _____ CHANNEL SUBSTRATE: _____

Geomorphic Considerations

Question 1. Stream Incisement (Downcutting)

8 = Channel stable, no active downcutting occurring; or, old downcutting apparent but a new, stable riparian area has formed within the incised channel. There is perennial riparian vegetation well established in the riparian area (Stage 1 and 5, Schumm's Model, Figure 2).

6 = Channel has evidence of old downcutting that has begun stabilizing, vegetation is beginning to establish, even at the base of the falling banks, soil disturbance evident (Stage 4, Schumm's Model, Figure 2).

4 = Small head cut, in early stage, is present. Immediate action may prevent further degradation (Early Stage 2, Schumm's Model, Figure 2).

2 = Unstable, channel incised, actively widening, limited new riparian area/flood plain, flood plain not well vegetated. The vegetation that is present is mainly pioneer species. Bank failure is common (Stage 3, Schumm's Model, Figure 2).

0 = Channel deeply incised, resembling a gully, little or no riparian area, active downcutting is clearly occurring. Only occasional or rare flood events access the flood plain. Tributaries will also exhibit downcutting or signs of downcutting (Stage 2, Schumm's Model, Figure 2).

The presence of active head cuts should nearly always keep the stream reach from being rated Sustainable.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

Question 2. Streambanks with Active Lateral Cutting (inspect banks on both sides of the stream)

8 = Lateral bank erosion is in balance with the stream and its setting.

5 = There is a minimal amount of human-induced, active lateral bank erosion occurring, primarily limited to outside banks.

3 = There is a moderate amount of human-induced active lateral bank erosion occurring on either or both outside and inside banks.

0 = There is extensive human-induced lateral bank erosion occurring on outside and inside banks and straight sections.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

Question 3. The Stream is in Balance with the Water and Sediment Supplied by the Watershed

6 = The width to depth ratio appears to be appropriate for the stream type and its geomorphic setting. There is no evidence of excess sediment removal or deposition. There are no indications that the stream is widening or getting shallower. There may be some well-washed gravel and cobble bars present. Pools are common. Rosgen "B" and naturally occurring "D" channel types are exceptions.

4 = The stream has widened and/or has become shallower due to disturbances that have caused the banks to become unstable or from dewatering which reduces the amount of water and energy needed to effectively move the sediment through the channel. (*Note: Sediment sources may also be from offsite sources.*) Point bars are often enlarged by gravel with silt and sand common, and new bars are forming. Pools are common, but may be shallow. Rosgen "B" and naturally occurring "D" channel types are exceptions.

2 = The width to depth ratio exceeds what is appropriate for the stream type. Point bars are enlarged by gravel with abundant sand and silt, and new bars are forming that often force lateral movement of the stream. Mid-channel bars are often present. For prairie streams there is often a deep layer of sediment on top of the gravel substrate. The frequency of pools is low. Rosgen "B" and naturally occurring "D" channel types are exceptions.

0 = The stream has poor sediment transport capability which is reflected by poor channel definition. The channel is often braided having at least 3 active channels. Naturally occurring Rosgen "D" channels types are exceptions. Pools are filled with sediment or are not existent.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

Vegetative Considerations

Question 4. Streambank with Vegetation (Kind) having a Deep, Binding Root Mass

Note: For stream types where riparian vegetation is not required for sustainability, this question can be skipped and given an N/A, with an explanatory note or comment. Be sure to adjust the potential score if this question is skipped. (See Appendix I for stability ratings for most riparian, and other, species.) Presence generally means more than one or two, healthy individuals of a species in the reach.

6 = The streambank vegetative communities are comprised of at least four plant species with deep, binding root masses.

4 = The streambank vegetative communities are comprised of at least three plant species with deep, binding root masses.

2 = The streambank vegetative communities are comprised of two plant species with deep, binding root masses.

0 = The streambank vegetative communities are comprised of one or no plant species with deep, binding root masses.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

Question 5. Riparian/Wetland Vegetative Cover (Amount) in the Riparian/Flood plain Area

Note: For stream types where riparian vegetation is not required for sustainability, this question can be skipped and given an N/A, with an explanatory note or comment. Be sure to adjust the potential score if this question is skipped.

- 6 = More than 85% of the riparian/wetland canopy cover has a stability rating ≥ 6 .
- 4 = 75%-85% of the riparian/wetland canopy cover has a stability rating ≥ 6 .
- 2 = 65%-75% of the riparian/wetland canopy cover has a stability rating ≥ 6 .
- 0 = Less than 65% of the riparian/wetland canopy cover has a stability rating ≥ 6 .

Note: A low score for this item may be enough to keep the stream reach from being rated Sustainable.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

Question 6. Noxious Weeds in the Riparian Area

- 3 = None of the riparian area has noxious weeds present.
- 2 = Up to 5% of the riparian area has noxious weeds (a few are present).
- 1 = Up to 10% of the riparian area has noxious weeds present (abundant).
- 0 = Over 10% of the riparian area has noxious weeds (very apparent and extensive distribution).

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments (NOTE--List all noxious weed species):

Question 7. Disturbance-Caused Undesirable Plants in the Riparian Area

- 3 = 5% or less of the riparian area with undesirable plants (very few present).
- 2 = 5-10% of the riparian area with undesirable plants (few are present).
- 1 = 10-15% of the riparian area with undesirable plants (commonly distributed).
- 0 = Over 15% of the riparian area with undesirable plants (abundant over much of the area).

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments (NOTE--List all nuisance weeds and undesirable plants):

Question 8. Woody Species Establishment and Regeneration

Note: For stream types where riparian vegetation is not required for sustainability, this question can be skipped and given an N/A, with an explanatory note or comment. Be sure to adjust the potential score if this question is skipped. At least 10 individuals in a class should be present in the reach to count. Count only 1+ years of age. Do not count seedlings of the year as mortality is very high the first year.

- 8 = All age classes of desirable woody riparian species present (Table 3).
- 6 = One age class of desirable woody riparian species is clearly absent, all others well represented. Often, it will be the middle age group(s) absent. For sites with potential for both trees and shrubs there may be one age class of each absent. Having mature individuals and at least one younger age class present indicates the potential for recovery.
- 4 = Two age classes (seedlings and saplings) of native riparian shrubs and/or two age classes of native riparian trees are clearly absent, or the stand is comprised of mainly mature species. Other age classes well represented.
- 2 = Disturbance induced, (i.e. facultative, facultative upland species such as rose, or snowberry) or non-riparian species dominate. Woody species present consist of decadent/dying individuals. (Refer back to Question 1 if this is the situation. The channel may have incised.)
- 0 = A few woody species are present (<10% canopy cover), but herbaceous species dominate (at this point, the site potential should be re-evaluated to ensure that it has potential for woody vegetation); or, the site has at ≥ 5% canopy cover of Russian olive and/or salt cedar. On sites with long-term manipulation or disturbance, woody species potential is easily underestimated.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

Functional Considerations

Question 9. Utilization of Trees and Shrubs

Note: For stream types where riparian vegetation is not required for sustainability, this question can be skipped and given an N/A, with an explanatory note or comment. Be sure to adjust the potential score if this question is skipped.

4 = 0-5% of the available second year and older stems are browsed.

3 = 5%-25% of the available second year and older stems are browsed (lightly).

2 = 25%-50% of the available second year and older stems are browsed (moderately).

1 = More than 50% of the available second year and older stems are browsed (heavily). Many of the shrubs have either a "clubbed" growth form, or they are high-lined or umbrella shaped.

0 = There is noticeable use (10% or more) of unpalatable and normally unused woody species.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

Question 10. Flood plain Characteristics for Dissipating Energy and Capturing Sediment

8 = Active flood or overflow channels exist in the flood plain. Large rock, woody debris, and/or riparian vegetation appropriate for the setting are sufficient to adequately dissipate stream energy and trap sediment on the flood plain. There is little evidence of excessive erosion or disturbance that reduces energy dissipation and sediment capture on the flood plain. There are no head cuts where either overland flow and/or flood channel flows return to the main channel.

6 = The flood plain meets the characteristics of the description in Question 8 above, but demonstrates slight limitations in the kind and amount of large rock, woody debris, and/or riparian vegetation present. Riparian vegetation structure is below that required to dissipate energy. There may be occasional evidence of surface erosion and disturbance, but generally not extensive enough to have affected channel development.

4 = Large rock, woody debris, and/or riparian vegetation is present, but generally insufficient (quality or quantity) to fully dissipate stream energy. Some sediment may be captured, but greater evidence of incipient erosion and/or head cuts is readily present.

2 = Inadequate Large rock, woody debris, and/or riparian vegetation is available for dissipation of energy or sediment capture. There is very little evidence of sediment capture. There is some streambank erosion due to human disturbance or alterations, and occasional head cuts where overland flows or flood channel flows return to the main channel.

0 = Flood plain area reflects the following conditions: 1) The flood plain area is very limited or not present and is inadequate to dissipate energy; 2) flood or overflow channels do not exist; and 3) large rock, woody debris, and/or riparian vegetation is not adequate to dissipate stream energy and trap sediment on the flood plain. Streambank and/or flood plain erosion and/or evidence of human alteration are common. "G"- and "F"-type channels (Rosgen) typically reflect these conditions.

SCORE: Potential _____ **Actual** _____

Please clarify the rationale for your score, including comments regarding *potential* and *capability* and document with photograph if appropriate.

Comments:

NAME OF STREAM: _____ REACH ID: _____ DATE: _____

SUMMARY

	<u>SCORE</u>		
	POTENTIAL	ACTUAL	POSSIBLE
QUESTION 1: Stream Incisement	_____	_____	<u>0, 2, 4, 6, 8</u>
QUESTION 2: Lateral Cutting	_____	_____	<u>0, 3, 5, 8</u>
QUESTION 3: Stream Balance	_____	_____	<u>0, 2, 4, 6</u>
QUESTION 4: Deep, Binding Root Mass	_____	_____	<u>N/A, 0, 2, 4, 6</u>
QUESTION 5: Riparian/Wetland Vegetative Cover *	_____	_____	<u>N/A, 0, 2, 4, 6</u>
QUESTION 6: Noxious Weeds	_____	_____	<u>0, 1, 2, 3</u>
QUESTION 7: Undesirable Plants	_____	_____	<u>0, 1, 2, 3</u>
QUESTION 8: Woody Species Establishment	_____	_____	<u>N/A, 0, 2, 4, 6, 8</u>
QUESTION 9: Browse Utilization	_____	_____	<u>N/A, 0, 1, 2, 3, 4</u>
QUESTION 10: Riparian Area/Flood plain Characteristics *	_____	_____	<u>N/A, 0, 2, 4, 6, 8</u>
TOTAL	_____	_____	<u>(60 total possible)</u>

(POTENTIAL SCORE FOR MOST BEDROCK OR BOULDER STREAMS) (36)
 (Questions 1, 2, 3, 6, 7, 10)

(POTENTIAL SCORE FOR MOST LOW ENERGY "E" STREAMS) (48)
 (Questions 1 - 7, 10)

RATING: = $\frac{\text{Actual Score}}{\text{Potential Score}} \times 100 = \% \text{ rating}$

- 80-100% = SUSTAINABLE
- 50-80% = AT RISK
- LESS THAN 50% = NOT SUSTAINABLE

* Only in certain, specific situations can both of these receive an "N/A".

Please clarify the rationale for your rating, including comments regarding potential. Can the limitations be addressed by the decision maker?

NOTES:

TREND: Does the reach appear to be improving or declining? Explain.

Reset Form

Print Form

Appendix G. Annual Effectiveness Monitoring Report for Montana Greater Sage-grouse and Declining Grassland Songbirds Programmatic Candidate Conservation Agreement with Assurances

Property Owner Name:

Address:

Phone Number:

E-mail:

1. Monitoring of rangelands for new infestations or expansions of existing noxious or invasive plant species infestations:

Date(s) completed:

Location of area(s) monitored:

Plant species observed:

2. Observations of sage-grouse:

Location(s) observed:

Frequency of sage-grouse observations:

Number of sage-grouse observed, when possible:

Notable observations (large flocks, hens with broods, etc.):

3. Documentation of livestock grazing management:

For each pasture/grazing unit, provide the dates of use, stocking rates, dominant vegetation type, and other relevant information (complete attached Table 1)

4. **Photo points**: to qualitatively monitor vegetation changes over time

Photo Date(s):

Photo Location(s):

5. **Rangeland trend**: determine the direction of change in the existing plant community relative to the reference state (complete attached form).

6. **Active sage-grouse lek monitoring (if applicable)**: Following protocols established by Montana Fish, Wildlife, and Parks (MFWP), lek monitoring will be conducted by a qualified agency, entity, or landowner (e.g., FWP, BLM, the Service, TNC and enrolled property owners trained in standardized lek monitoring protocols). Attach lek monitoring results to annual report.

DRAFT

Rangeland Trend Worksheet

Pasture/Grazing Unit:

Location:

Ecological Site:

Date:

Trend Determination:

Plant Factors (circle as appropriate):

Vigor of desired key plants	Good	Fair	Poor
Decadent plants	Many	Some	None
Residual plants and litter	Abundant	Adequate	Inadequate
Nonnative/Invasive plants	None	Some	Many

List nonnative/invasive plant species present:

Soil Factors (circle as appropriate):

Surface erosion	Slight	Moderate	Severe
Percent bare ground	Less than expected	Normal	More than expected

Overall Trend Rating: Toward or away from reference plant community (circle one)

Toward

Not Apparent

Away From

Appendix H. Spatial Data Sources for Calculating Population Estimates for Calculating Incidental Take

Grassland Birds:

- Montana Land Cover Framework (Montana Natural Heritage Program 2013)
http://ftp.geoinfo.msl.mt.gov/Data/Spatial/MSDI/LandUse_LandCover/
- Montana Animal Range Maps for Montana (MTNHP 2015): requested from MTNHP October 2015
- Revenue Final Land Unit (FLU) Classification (Montana Department of Revenue 2015)
- Montana Cadastral Framework (Montana State Library 2015)
<http://ftp.geoinfo.msl.mt.gov/Data/Spatial/MSDI/Cadastral/Parcels/>
- Bird Conservancy of the Rockies (2016). The Rocky Mountain Avian Data Center. [web application]. Brighton, CO. <http://adc.rmbo.org>. (Accessed: April 15, 2016)

Greater Sage-grouse:

- Montana Executive Order Sage-grouse Layers (Core, Connectivity, and General Habitat). Montana Fish, Wildlife, and Parks
http://data.mtfwp.opendata.arcgis.com/datasets/555fd21a0f7e43059ab7991d618b4897_0.zip
- Revenue Final Land Unit (FLU) Classification (Montana Department of Revenue 2015)
- Montana Cadastral Framework (Montana State Library 2015)
<http://ftp.geoinfo.msl.mt.gov/Data/Spatial/MSDI/Cadastral/Parcels/>

Appendix I. Basic Steps to Apply for a Certificate of Inclusion

STEP 1: Complete the Pre-application Information Screen and submit it to The Nature Conservancy, which will review it collaboratively with the Service.

STEP 2: If The Nature Conservancy, the Service, and the property owner mutually determine that the property is appropriate for inclusion in the Programmatic CCAA, the Cooperators will collect the following information to help characterize the quality and quantity of sage-grouse and declining grassland songbird habitats and opportunities for conservation:

-
- Information on land status/ownership and mineral ownership
 - Aerial photos of property
 - Map of the property boundary and locations of structures/developments
 - Determine if the property is in or adjacent to an area identified as a priority for conservation
 - Gather any data on use of the property (both current and historic) by sage-grouse and/or declining grassland songbirds.
 - Identify sage-grouse/grassland songbird habitats and describe type/quality
 - Describe current and potential future threats to sage-grouse and/or declining grassland birds and their habitats
 - Obtain data on large-scale projects, including, but not limited to wind farms, mining activities, oil and gas development, electric transmission lines, or pipelines in the area
 - Any other relevant information
-

This is important information needed to process and prioritize the application and to develop individual needs of applicants. In instances where a property owner has an approved and signed PLA, the Service and TNC will use the information in the PLA to develop the application for the CI.

STEP 3: Cooperators will conduct site visit with property owner and help complete CI application.

This site visit will collect information to determine the habitat conditions on the lands to be enrolled. During the site visit, primary threats to the covered species and habitats will be identified and the appropriate Conservation Measures to address those threats will be selected.

STEP 4: Property owner and The Nature Conservancy sign a letter of intent to participate.

If Conservation Measures are acceptable to both the property owner and The Nature Conservancy, then both parties will sign a letter of intent to participate in the CCAA. This letter of intent is a non-binding agreement to list the anticipated Conservation Measures to be implemented, to schedule an initial baseline assessment, and to schedule completion of the site-specific land management plan.

STEP 5: Property owner submits the completed CI application to The Nature Conservancy and the Service.

STEP 6: If necessary, The Nature Conservancy and the Service prioritize review and approval of CI applications.

STEP 7: The Nature Conservancy and the Service review the CI application. Upon approval, The Nature Conservancy, the Service, and property owner sign the CI.

DRAFT

Appendix J. Certificate of Inclusion Pre-application Information Screen

Property Owner Name:

(The Service will protect “personal identifying information” from disclosure as required by the Privacy Act [<http://www.fws.gov/irm/bpim/privacy.html>].)

Address:

Phone Number:

E-mail:

Proposed Enrolled Lands (Range, Township, Section(s)):

Documentation:

1. If the property owner has an approved Private Landowner Agreement (PLA) that addresses all of the key threats identified in the CCAA, please attach a copy.
2. Provide a map of the property to be covered by the CI.
3. Do you have a current Grazing Plan/Conservation Plan? If so, attach a copy.
4. Do you have any other agreements with NRCS, FSA, or State agencies? If so, attach a copy.
5. If no Grazing/Conservation Plan or other agreements, describe current land uses.
6. Provide additional maps or description pertaining to habitats for the Covered Species, sage-grouse leks on the property, existing conservation measures being implemented, stock water development, pastures, and locations of fences, stock tanks, salt/mineral or any other structures.