

BLM SAGE GROUSE PLANNING



**Montana Sage-Grouse Habitat
Conservation Advisory Council**

May 22, 2013



Population structure and genetic diversity of greater sage-grouse (*Centrocercus urophasianus*) in fragmented landscapes at the northern edge of their range

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Abstract Range-edge dynamics and anthropogenic fragmentation are expected to impact patterns of genetic diversity, and understanding the influence of both factors is important for effective conservation of threatened wildlife species. To examine these factors, we sampled greater sage-grouse (*Centrocercus urophasianus*) from a declining, fragmented region at the northern periphery of the species' range and from a stable, contiguous core region. We genotyped 2,519 individuals at 13 microsatellite loci from 104 leks in Alberta, Saskatchewan, Montana, and Wyoming. Birds from northern Montana, Alberta, and Saskatchewan

were identified as a single population that was genetically depauperate or highly depauperate, with the Mitochondrial DNA (mtDNA) haplotypes of both subpopulations having high genetic diversity with no evidence of genetic differentiation. However, river valleys and a large agricultural region were genetically depauperate or highly depauperate, rejecting the idea of male kin association. Northern greater sage-grouse are maintaining genetic connectivity and northern peripheral habitats via dispersal around various forms of fragmentation.

Keywords Sage-grouse · Genetic structure · Population · Genetic diversity · Periphery

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Image by Bob Martinka

MANAGEMENT PLAN AND CONSERVATION STRATEGIES FOR SAGE GROUSE IN MONTANA – FINAL

Prepared by:
Montana Sage Grouse Work Group

Rev: 2-1-2005

for this imperiled population. Science can help delineate high priority conservation areas but the fate of landscapes ultimately depends on international partnerships implementing conservation at scales relevant to prairie wildlife.

Keywords Canada, *Centrocercus urophasianus*, greater sage-grouse, migration, Near Threatened species, prairie, transboundary conservation, USA

Introduction

Migration is an adaptive behavioural trait that allows individual organisms to capitalize on resources that fluctuate in time and space. Despite energetically costly movements, selective forces increase individual fitness when resource scarcity or crowding by conspecifics makes

for sage-grouse (IUCN Red List) sensitive of the landscape that bear natural resource human footprint the once was dominated grass of their life-hist strongest in wetlands of sage 1993; Doherty et al. 2007; Hagen et al., 2007). However, recent findings show severe winter weather can decrease survival (Moynahan et al., 2006) and that human disturbance degrades otherwise suitable winter habitat (Doherty et al., 2008; Carpenter et al., 2010). Divergent migratory strategies across the range of sage-grouse reflect the variation in distribution and abundance of available habitats. Non-migratory populations fully

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Greater Sage-Grouse Winter Habitat Selection and Energy Development

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ANNA'S SAGEBRUSH HIGHWAY: MIGRATION IN SAGE-GROUSE

By

Elizabeth Smith

Montana, Missoula, MT, 2010

Thesis

partial fulfillment of the requirements for the degree of:

Master of Science
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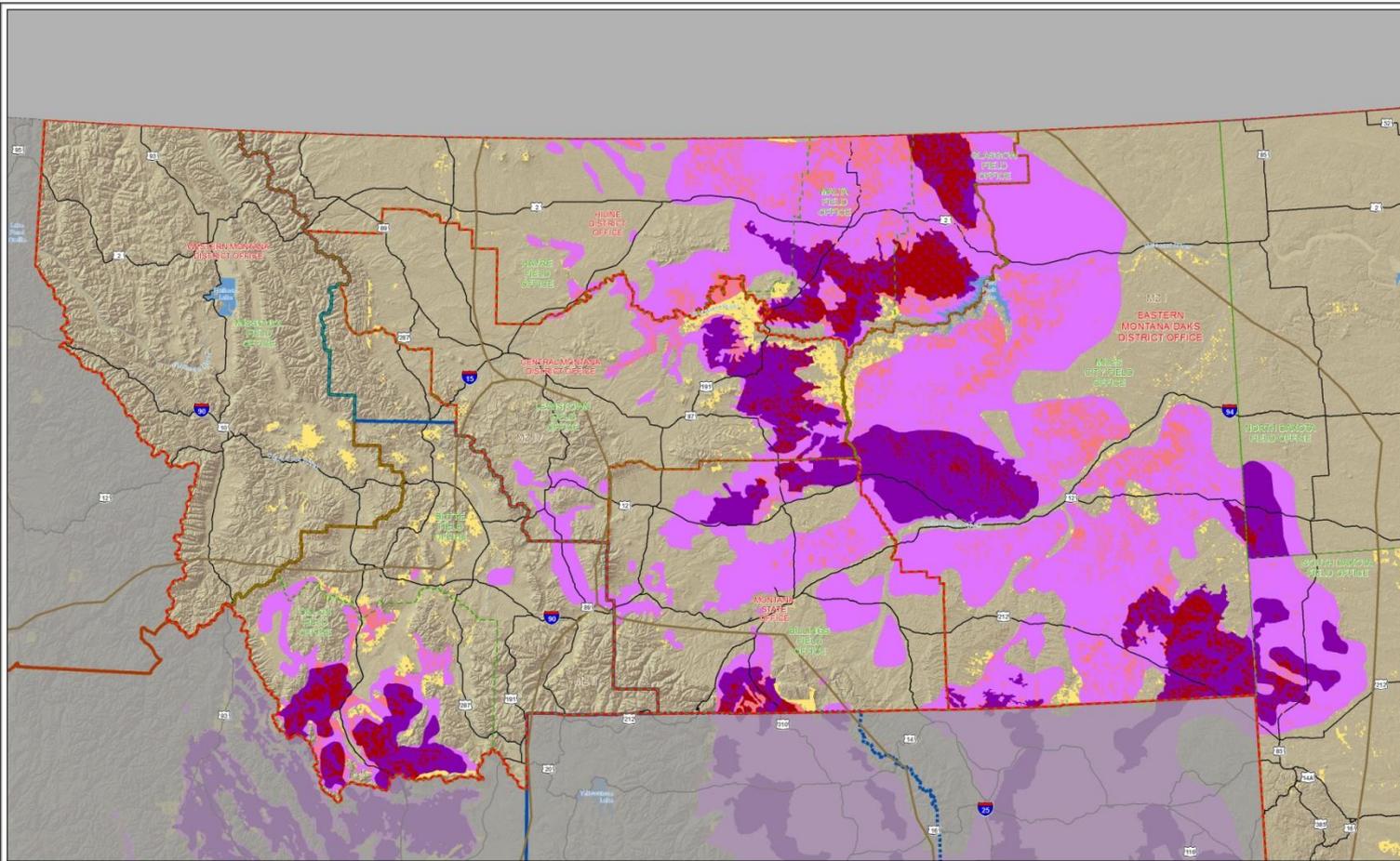
alrededor de una asamblea de más de 5 km también podría ser importante para la viabilidad de la población. Los manejadores de fauna deben limitar

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PPH and General Habitat



Montana & The Dakotas Greater Sage-Grouse Preliminary Priority Habitat, Preliminary General Habitat and BLM Managed Lands - May 2012 -

Legend

- Preliminary Priority Habitat (PPH)
- Preliminary General Habitat (PGH)
- PPH on BLM Managed Lands
- PGH on BLM Managed Lands
- BLM Managed Lands
- BLM Field Office Boundary
- BLM District Office Boundary
- Rocky Mountain SG Planning Region
- Rocky Mountain SG Planning Sub-Regions
- Great Basin SG Planning Region
- Great Basin SG Planning Sub-Regions
- WAFWA SG Management Zones

Data Sources:

Montana – PPH: FINAL DRAFT; Developed by Montana Fish, Wildlife and Parks and reviewed by Montana BLM; **PGH:** FINAL DRAFT; Distribution of Sage-Grouse in North America. Schroeder et al., 2004.

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BLM Managed Lands: NOC GSSP Interim National SMA, accessed on 05-18-2012

BLM Sage-Grouse Planning Regions and Sub-Regions: Sage-Grouse Planning Team

WAFWA Management Zones: Version 2 10-18-2006

BLM Field and District Office Boundaries for MT, BLM MT/Dakotas State Office



BLM MT IM 2010-017

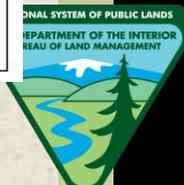
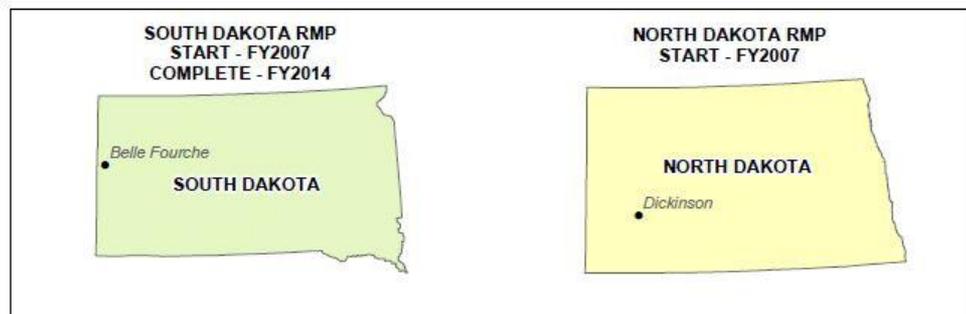
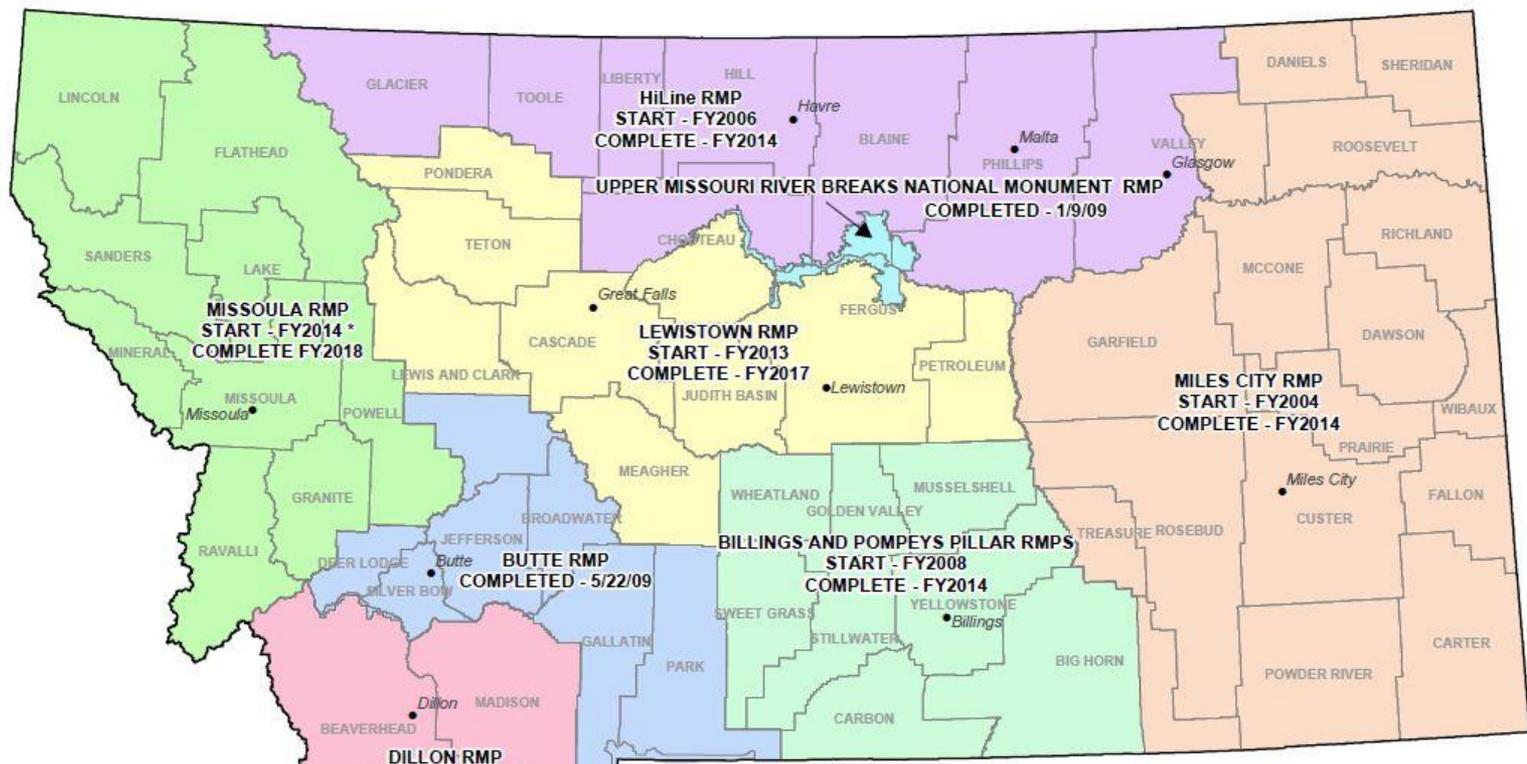
“Guidance for Greater Sage-Grouse Management and Conservation in Resource Management Plan (RMP) Revisions in Management Zones 1 and 2 Within the Montana/Dakotas BLM”

Issued by the MT/DK BLM to initiate an intensive effort to conserve Sage-grouse habitat. This IM was a major driver in Alternative development for all RMPs.

- The IM provided guidance to develop and analyze the Alternatives.
- Guidance helped establish sage-grouse Protection Priority Areas (PPA), Restoration Areas (RA) and General Habitat Areas (GHA). (Developed using BLM and MT FWP data and maps)
- Guidance is applied to any BLM authorized action with potential surface disturbing and/or disruptive activities occurring within sage-grouse habitat.



ONGOING & FUTURE LAND USE PLANNING BOUNDARIES MONTANA/DAKOTAS



Interim BLM Management for Sage-Grouse

- Instruction Memorandum No. 2012-043 (Dec. 22, 2011)

Policy/Action: As summarized in the BLM's National Strategy, emphasis for protecting and managing Greater Sage-Grouse habitat incorporates the following principles:

- 1) Protection of unfragmented habitats;
- 2) Minimization of habitat loss and fragmentation; and
- 3) Management of habitats to maintain, enhance, or restore conditions that meet Greater Sage-Grouse life history needs.

To provide guidance to field offices about how to promote these principles, this IM transmits policies and procedures that apply to ongoing and proposed BLM actions, including use authorizations, within Preliminary Priority Habitat (PPH) and Preliminary General Habitat (PGH). PPH comprises areas that have been identified as having the highest conservation value to maintaining sustainable Greater Sage-Grouse populations. These areas would include breeding, late brood-rearing, and winter concentration areas. PGH comprises areas of occupied seasonal or year-round habitat outside of priority habitat. These areas have been identified by the BLM in coordination with respective state wildlife agencies.



Resource Management Plans (RMP)

An RMP:

Describes broad multiple-use direction for BLM-administered public lands that focuses on what resource conditions, uses and visitor experiences should be achieved and maintained over time.

Establishes desired outcomes (goals and objectives) for resource management and includes measurable steps, management actions, and allowable uses to achieve the desired outcomes.

Provides the framework for subsequent implementation decisions carried-out through project specific or activity level plans.

- An Environmental Impact Statement (EIS) accompanies the RMP to provide a comprehensive evaluation of the environmental issues and impacts for the alternatives analyzed in detail.



Land Use Plan decisions that address threats to Greater Sage-Grouse

Threats vary across MT/DK by sage-grouse population.

Threats:

Land Use Plan Decisions

Energy Development

Fluid Minerals: closed, open – constraints (timing, NSO, CSU).

Lands and Realty (wind): exclusion, avoidance, open.

Infrastructure

Lands and Realty (structures): exclusion, avoidance, open.

Travel Management (roads): closed, limited, open.

Grazing Management

Grazing: unavailable, available

Mining

Locatable Minerals: petition for withdrawal, available.

Saleable/Leasable Minerals: closed, open.



RMP Revisions

Billings Planning Area (10.8 million acres in southcentral MT)

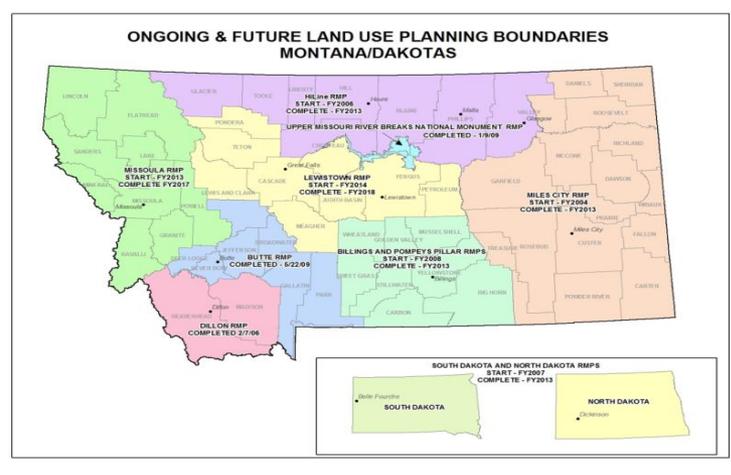
- BLM Surface (430,000 acres – 4% of total surface; 20% of total PPH)
- BLM Subsurface (963,000 acres – 9% of total mineral estate; 26% of total PPH)

HiLine Planning Area (15.9 million acres in northcentral MT)

- BLM Surface (2.4 million acres- 15% of total surface; 55% of total PPH)
- BLM Subsurface (3.8 million acres- 21% of total mineral estate; 65% of total PPH)

Miles City Planning Area (25.8 million acres in eastern MT)

- BLM Surface (2.8 million acres- 11% of total surface; 20% of total PPH)
- BLM Subsurface (10.9 million acres- 42% of total mineral estate; 37% of total PPH)



Management Considerations (RMP Revisions):

- **Scattered land pattern/split estate (minerals)**
- **Valid existing rights**
- **Existing claims on areas with moderate-high mining potential (bentonite)**
- **Existing leases on minerals with moderate-high oil & gas potential**
- **Limited conflict with livestock grazing management**



Billings, HiLine, and Miles City RMPs

- **Current Status:** Preliminary Draft RMP/EIS
- **Draft:** March 2013.
- 90-Public Comment Period.
- Proposed RMP/Final EIS.
- 60-day Governor's Consistency Review.
- 30- Day Protest Period.
- **Anticipated completion:** FY 2014

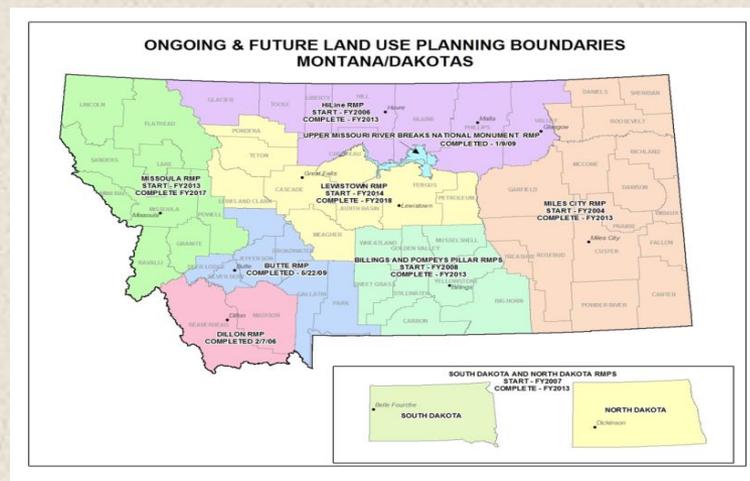
RMP Sage Grouse Amendments

Dillon Planning Area (5.8 million acres in southwest MT)

- BLM Surface (886,000 acres – 15% of total surface; 34% of total PPH)
- BLM Subsurface (1.36 million acres – 23% of total mineral estate; 48% of total PPH)
- Dillon RMP revised in 2006

Lewistown Planning Area (11.6 million acres in central MT)

- BLM Surface (430,000 acres- 6% of total surface; 19% of total PPH)
- BLM Subsurface (452,000 acres- 4% of total mineral estate; 31% of total PPH)
- Current RMPS: Headwaters (1984), Judith (1994)



Management Considerations: Dillon RMP Sage Grouse Amendment

- Part of the Idaho/SW Montana Sage Grouse EIS Amendment
- Includes the Beaverhead/Deerlodge NF
- Threats: invasive species, ROW
- Scattered land pattern
- Valid existing rights
- Limited/no conflict with livestock grazing management
- Limited/no oil and gas development

Management Considerations: Lewistown RMP Amendment

- Threats: invasive species, ROW
- Lewistown RMP Revision will be initiated in FY2013.
- Scattered land pattern
- Valid existing rights



RMP SG Amendment Schedule

	Dillon	Lewistown
Scoping	Public scoping closed March 23, 2012	
Status	Draft EIS to public (Fall 2013)	Draft EIS to public (Fall 2013)
	Governor's Consistency Review (2014)	Governor's Consistency Review (2014)
	Final EIS (2014)	Final EIS (2014)
	Protest/protest resolution (2014)	Protest/protest resolution (2014)
	Record of Decision (2014)	Record of Decision (2014)

Range of Alternatives

- No Action (continued current management)
- Maximize Conservation (NTT Report)
- Provide for conservation and multiple use (core area concept)

Goal is to provide certainty of threat amelioration through adequate regulatory mechanisms in the RMPs.



PPH on BLM Lands

BLM Land Use Plan	% of Planning Area that is BLM Surface	Acres PPH on BLM Surface	% Total PPH on BLM Surface	Acres PPH on BLM Mineral Estate	% Total PPH on BLM Minerals	% BLM PPH Minerals not leased now
Billings	4%	165,283	20%	215,310	26%	18%
HiLine	15%	1,254,331	55%	1,484,724	65%	63%
Miles City	11%	679,835	20%	1,243,707	37%	30%
Dillon	15%	455,233	34%	658,101	48%	46%
Lewistown	6%	233,177	19%	379,229	31%	29%
Montana Total	10%	2.8 million	31%	19.4 million	44%	39%



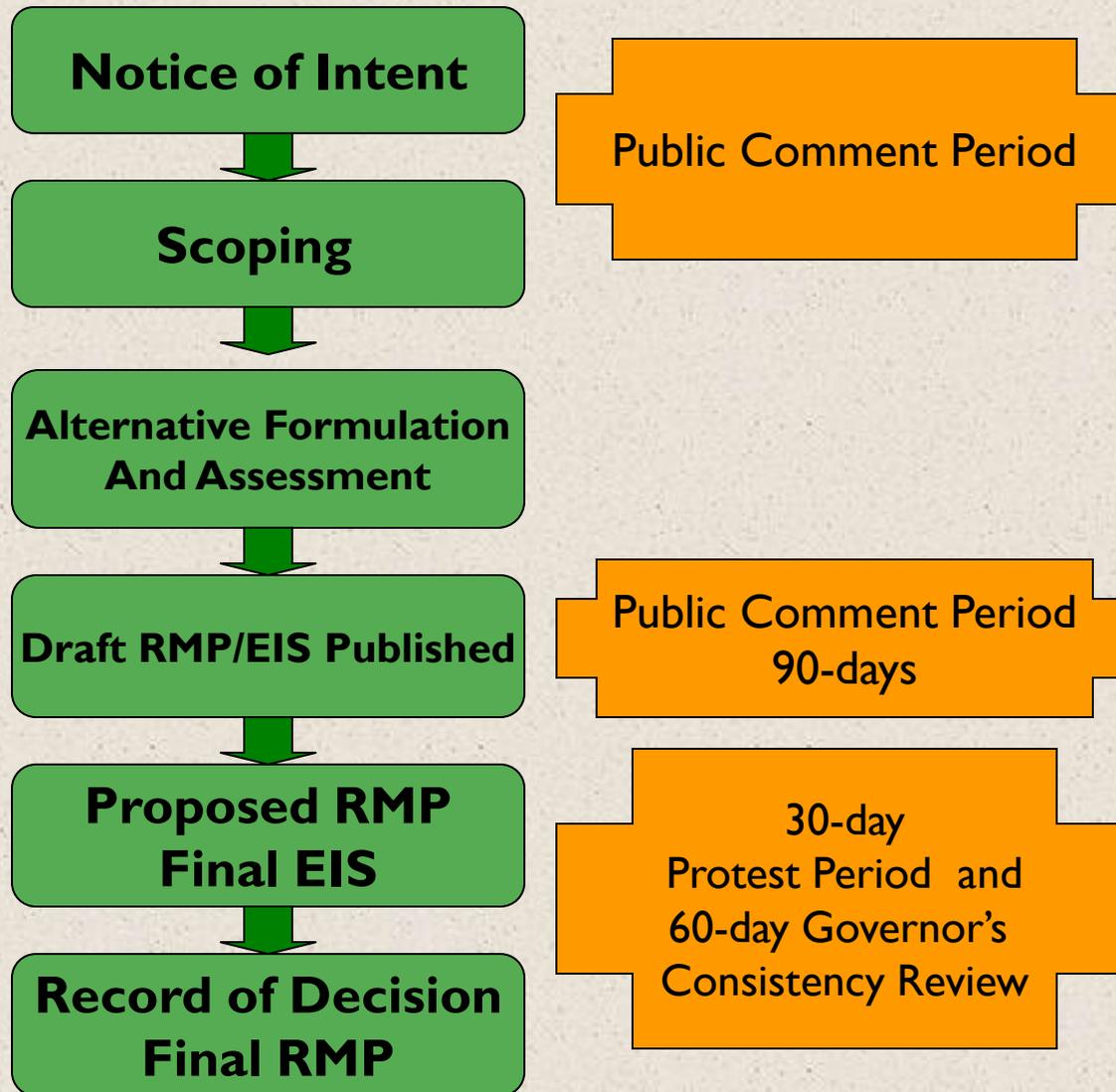
Partnerships

- Land ownership in priority habitat is mixed.
- Threats occur across ownerships.

Montana's conservation strategy will complement Federal regulatory mechanisms to increase the scope and certainty of threat amelioration on all sage-grouse habitat.



Key Milestones

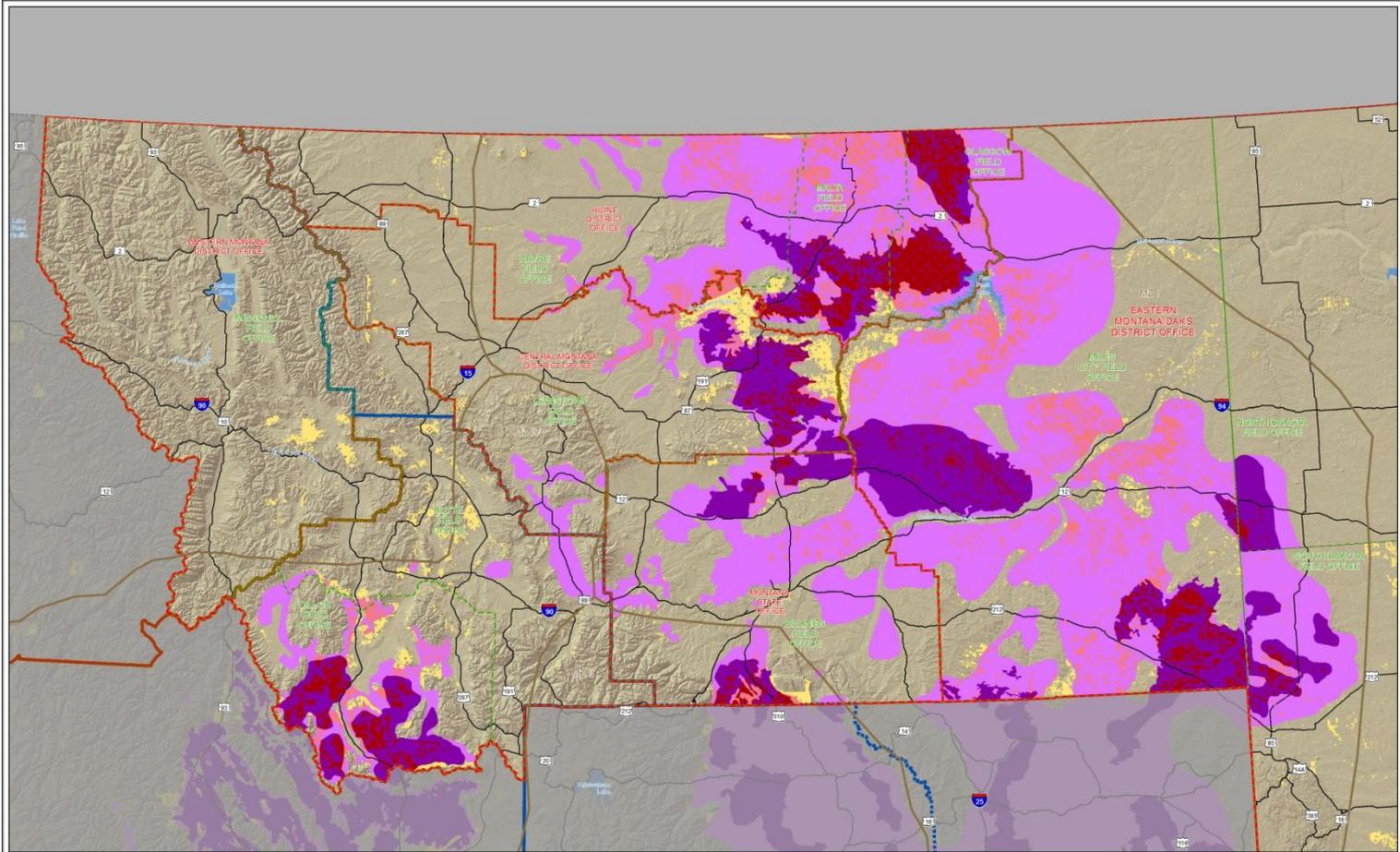


Summary

- BLM is preparing 3 RMP Revisions and 2 Sage Grouse Amendments in Montana.
- BLM manages less than 50% of Priority Sage Grouse Habitat in MT.
- 3 RMP revision drafts were released to the public in March 2013.
- 2 RMP Amendments will be available to the public in September 2013.
- The council will complete it's assignment by January 2014.
- RMP decisions will be completed by September 2014.
- USFWS will make a listing decision in 2015.



Questions?



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Greater Sage-Grouse
Preliminary Priority
Habitat, Preliminary
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