

Harnessing Technology to Conserve a Wild Icon of the West

Greater Sage-Grouse,
the Web, and Proactive
Decision Support Tools



Joel Maes

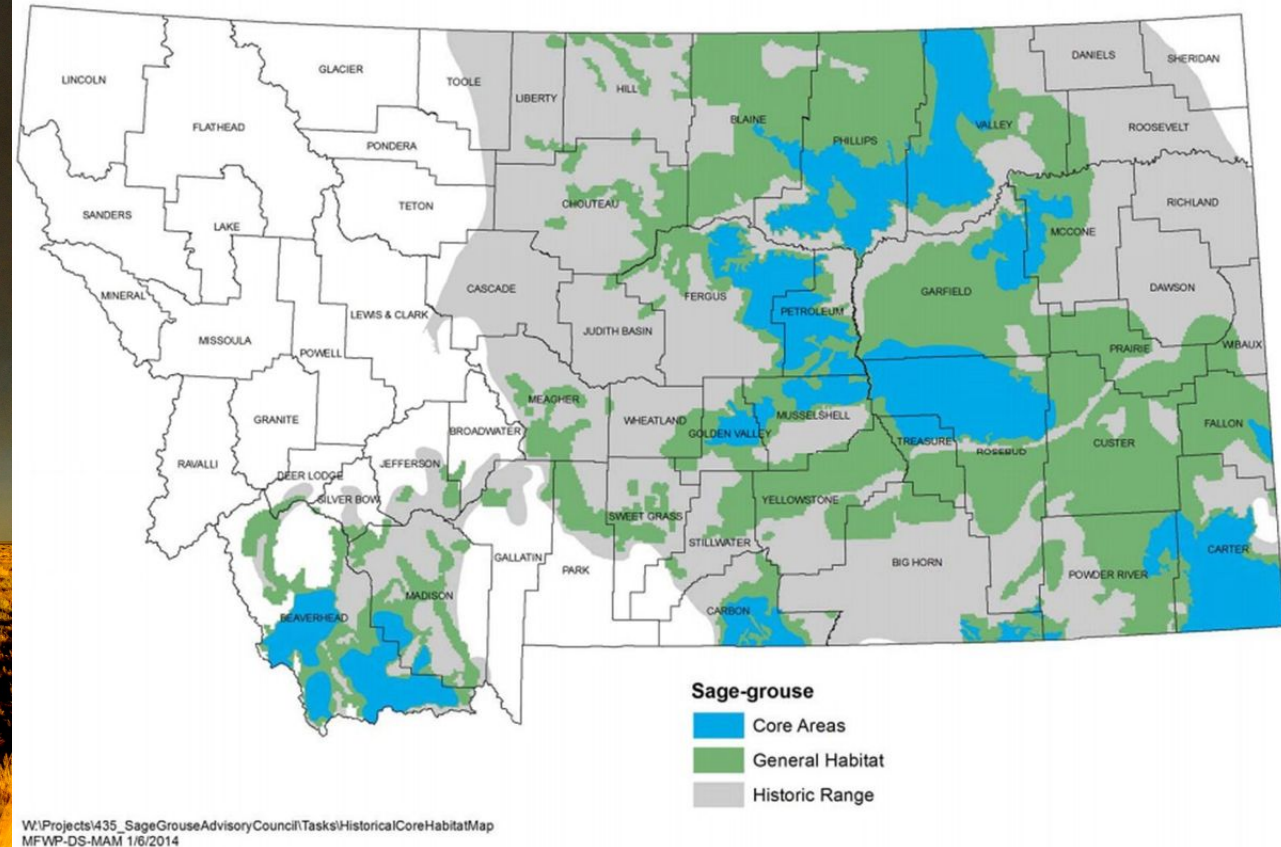
Carolyn Sime

ACES: December 4, 2018





USFWS



Historic Sage Grouse Declines

Other Sagebrush – Grassland Species, too

Ecological Realities of Greater Sage-Grouse



Sagebrush specialist (sometimes 95%)

Placed-based, especially breeding (leks)

Faithful to home; poor pioneer

Very sensitive to habitat change,
anthropogenic disturbances

Time lag to detect population declines: 3-5
years

Hard Realities

- Humans will continue to disturb, modify, even eliminate habitat
- Mother nature will, too
- Everyone has to make decisions
- Disturbance will accumulate through time, with negative consequences ... *unless*

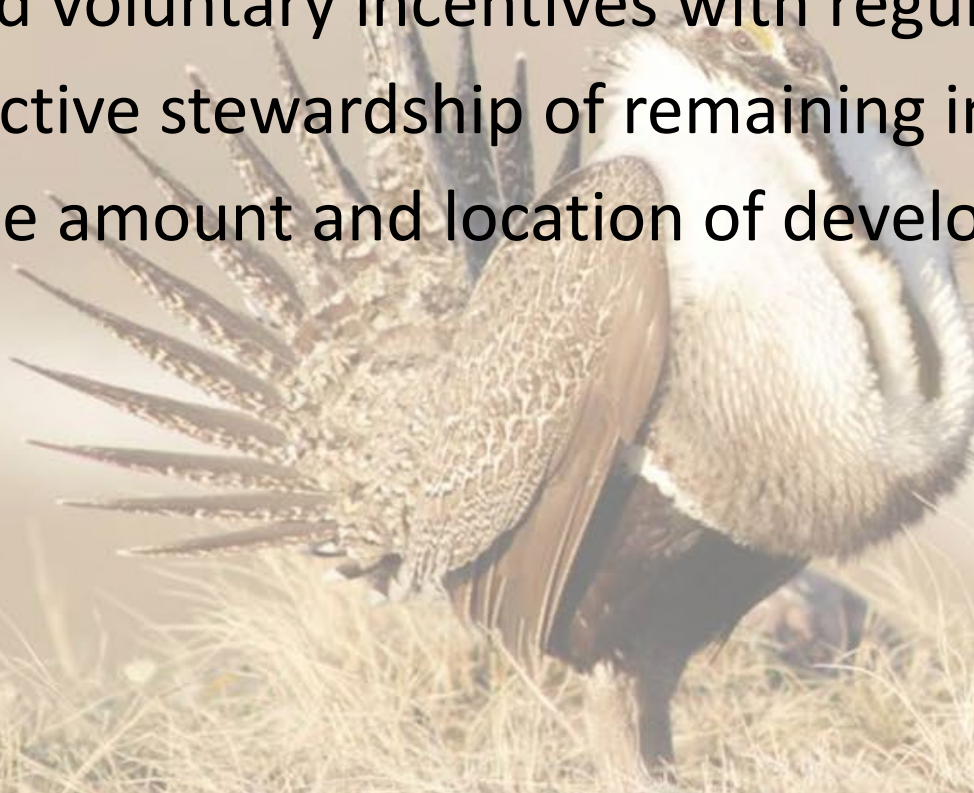


(BLM/California)



Montana's Conservation Strategy

- Executive Orders, State Laws, Federal and Private Lands
- Blend voluntary incentives with regulatory permitting tools
- Proactive stewardship of remaining intact sagebrush landscapes
- Guide amount and location of development: what, where, how



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Goal:

- Conserve Habitat
- Maintain Viable Populations

Harnessing Technology for Conservation: developers & regulators

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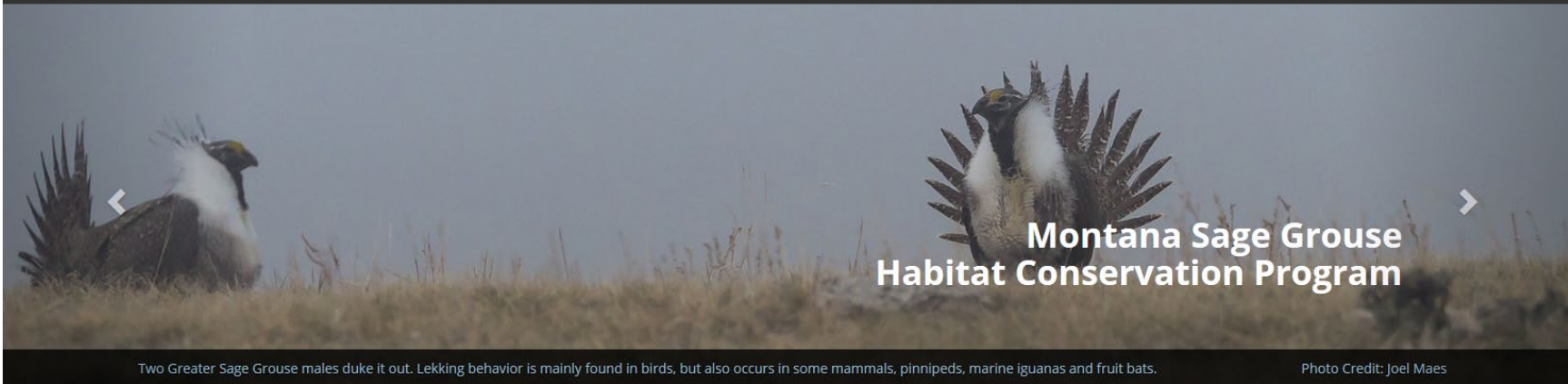
MT Sage Grouse Habitat Conservation Program

ABOUT

FAQ

MAP

LOGIN



Two Greater Sage Grouse males duke it out. Lekking behavior is mainly found in birds, but also occurs in some mammals, pinnipeds, marine iguanas and fruit bats.

Photo Credit: Joel Maes



PROGRAM INFORMATION

[Resources](#)

[Join the Mailing List](#)

[Learn More](#)



MONTANA SAGE GROUSE OVERSIGHT TEAM

[Members](#)

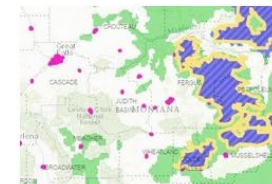
[Meeting Archive](#)



GRANTS

[Grant Information](#)

[2016 Grants](#)



PROJECTS

[Start or Follow up on a Project](#)

[Check if you are in habitat](#)



MONTANA SAGE GROUSE HABITAT CONSERVATION PROGRAM
1539 ELEVENTH AVE. HELENA, MT 59601 | SAGEGROUSE@MT.GOV | 406-444-1467 OR 406-444-2613

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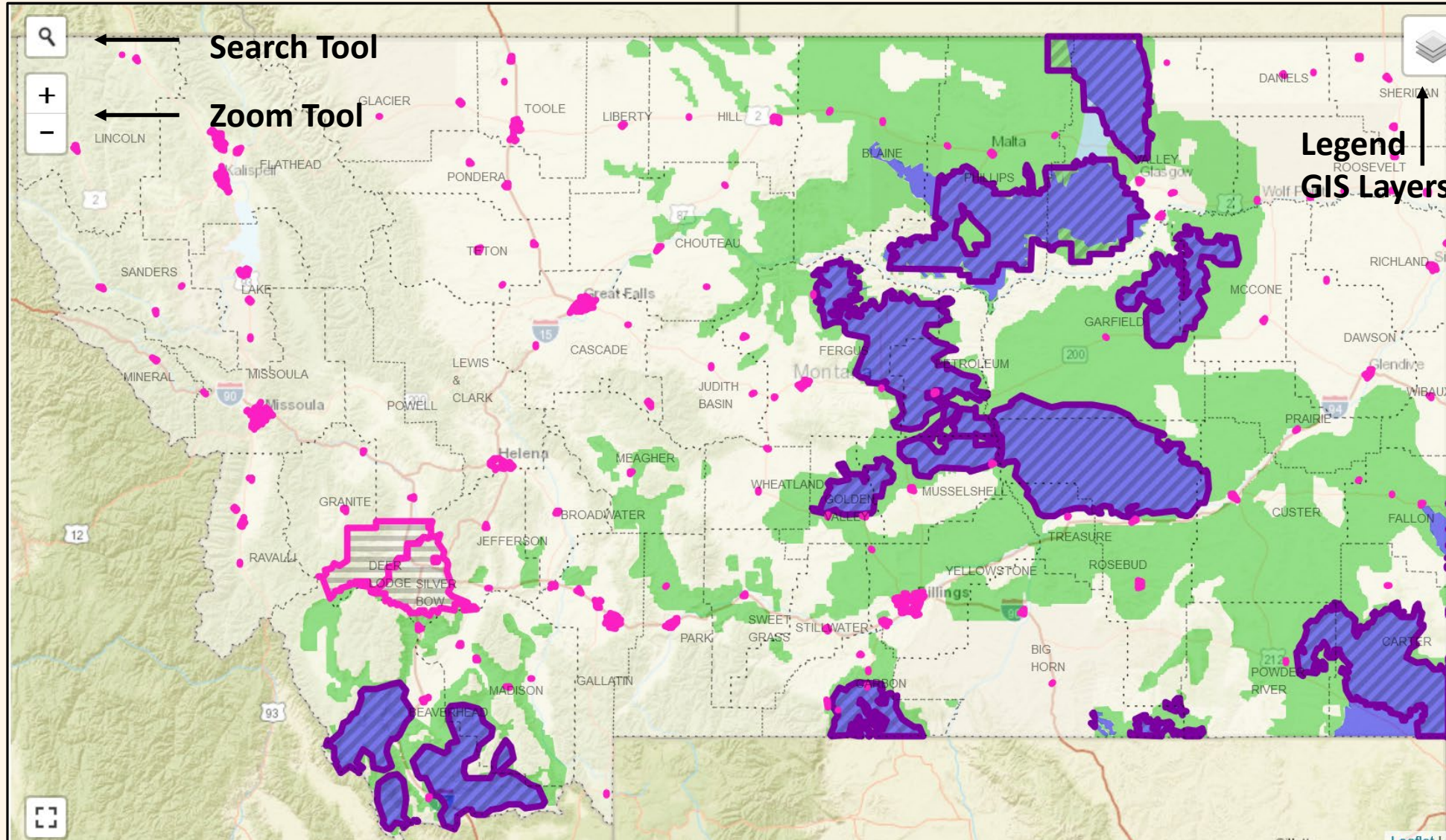
How
Developers
Harness
Technology:

Interactive
Web-based
Consultation
Process



Areas of Focus for Sage Grouse Conservation

Does it apply to me?



PROJECTS

- Start or Follow up on a Project
- Check if you are in habitat
- Quick Start Guide



Log into the System

Read Instructions & Work Through Steps 1-6

1. Answer
Dynamic
Questionnaire

2. Provide
Spatial Data

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Project Kevin TEAM GRANTS FAQ PROGRAM MAP HELLO CAROLYN MANAGE ▾ PROJECTS DISTURBANCES NEW PROJECT LOGOUT

Photo Credit: Richard Prodgers

Propose a project in sage grouse habitat

- 1. Instructions
- 2. Basics
- 3. Disturbances
- 4. Questionnaire
- 5. Attachments
- 6. Review & Submit

Instructions

This project proposal has a few parts:

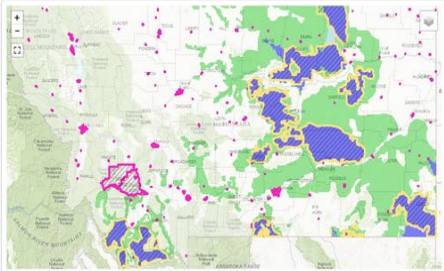
Basics Information about Your Project
This wizard lets you submit project information for any permitted activities proposed in sage grouse habitats designated as core (blue), general (green), or connectivity (light-blue) habitats. If you're not sure which habitat zone(s) your project is in, this wizard will help you determine that. For program details please see our [FAQ](#).

Disturbances: Project Construction and Type of Disturbance
After entering the Basics, you need to draw or upload your project's location and proposed disturbances on a map, and then enter some additional information for each disturbance. Note that a project can have one or more disturbances; for example, you may be proposing a communications project that involves a road, buried cables, and towers, in which case you would have three disturbances.

Questionnaire: Project and Disturbance Description Details
Once your proposed disturbances are mapped and described, you will need to answer some questions based on your disturbance types.

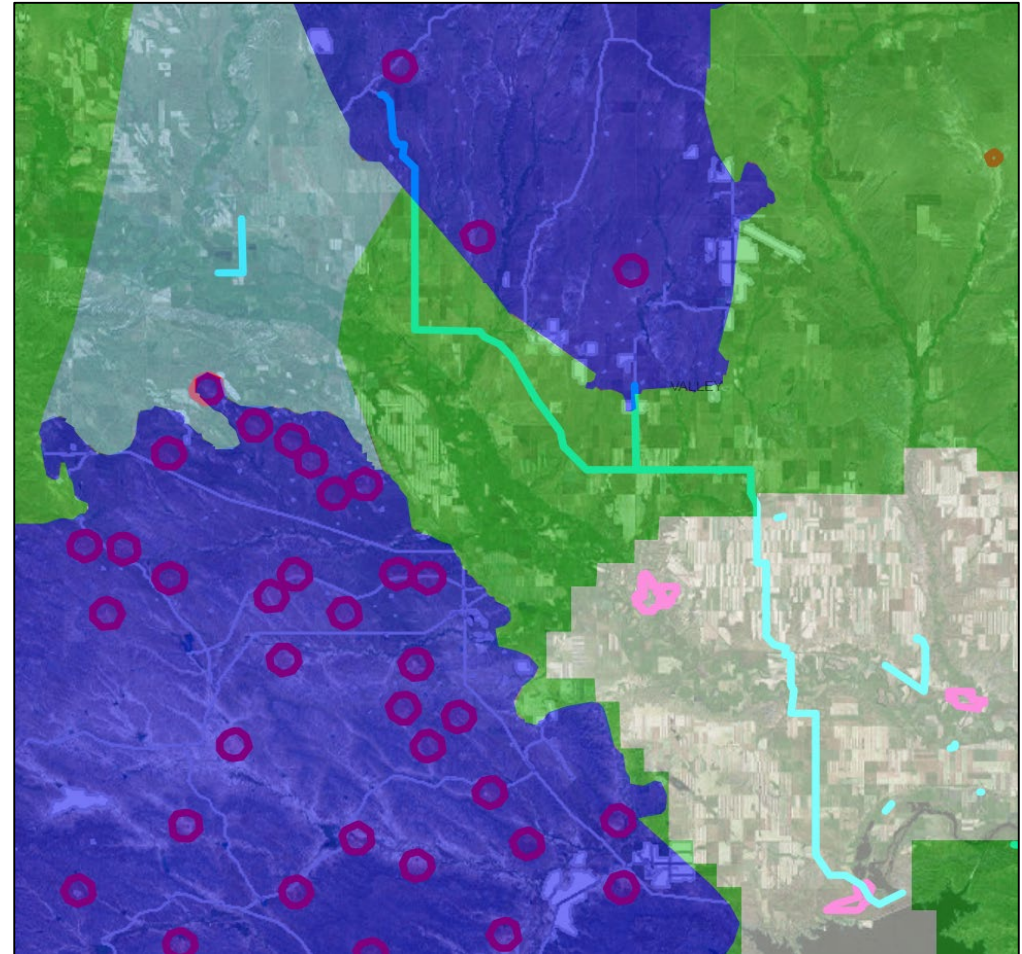
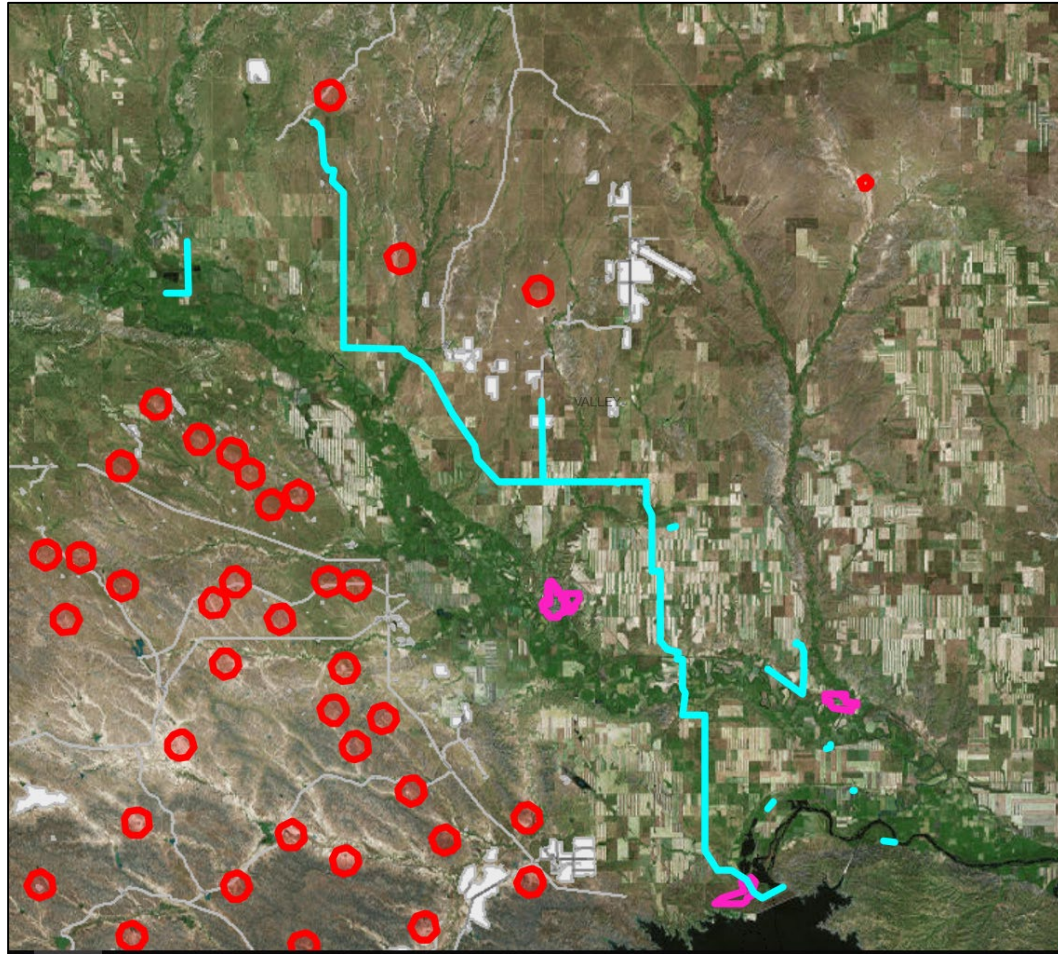
Save Your Project for Later, Save and Continue, or Submit for Review
You'll have a chance to review a summary of your proposed project before you submit it for consultation. You do not need to complete this wizard in one session – your work will be saved and the next time you log in, you'll be able to resume where you left off.

Help
If you run into any snags or have questions, please [contact us](#).



Make sure your project is in sage grouse habitat

Example: Transmission Line



Will adding this new line exceed the disturbance threshold?
What are the other potential impacts?
What mitigation will be required?

What the Developer Sees

Below 5% ?

DDCT RESULTS

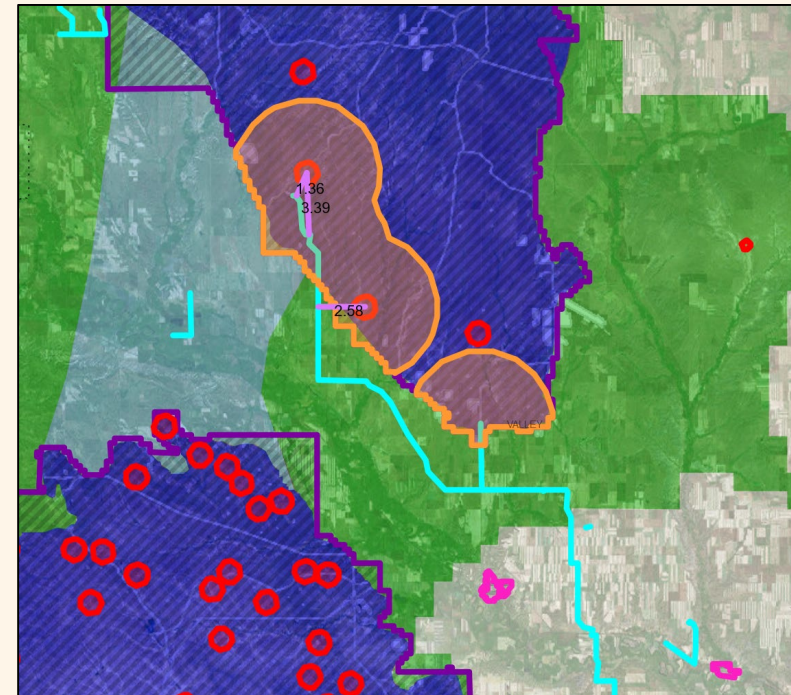
DDCT Analysis Area	Proposed Disturbances Area	Existing + Proposed Disturbances Area within DDCT Analysis Area	DDCT Result	New disturbed acres	Affected Leks within the DDCT Analysis Area
71,845.19 acres	9 acres	2,100.89 acres	2.92%	5.94 acres	2

DISTURBANCES

[Location G-1](#)
[Location F-1](#)
[Extra Line](#)
[Location E-1](#)
[Location D-1](#)
[Location D-2](#)
[Location D-3](#)
[Extra Line](#)
[Location C-1](#)
[115kV Transmission Line \(part 1\)](#)
[Location B-1](#)
[Location A-1](#)
[Location A-2](#)
[Location A-3](#)
[Distribution Line](#)
[115 kV Transmission Line](#)
[Black Coulee Substation](#)
[Cherry Creek Substation](#)

Basics

Disturbance Name: Location G-1
Type of Disturbance: Power Line
Area: 0.637 acres **Length:** 2,766.1 ft **Width:** 10 ft
EO Habitat Classes: EO-General Habitat
Core Area Names: Not in any Core Area
Management Zones: Great Plains Management Zone
No Surface Occupancy Areas: Not in any NSOA
Exempt Community Boundaries: Not in any Exempt Community Boundary
In BLM Priority Habitat Area? No
Leks Intersected by Disturbance: Does not intersect any NSOA



DISTURBANCES WITHIN 4 MILES OF A LEK

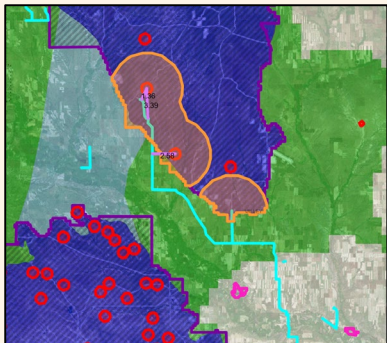
The table below is generated when DDCT Results are calculated.

Currently viewing 4 of 4 Disturbances within 4 miles of a Lek

[Reset](#) [Download Table](#)

Disturbance Name	Disturbance Type	Lek Name	Lek Status	Miles to Lek Point	Intersects with Lek NSOA Polygon?	V
115kV Transmission Line (part	Power Line	SG20-097	CA	3.41	No	Y
115kV Transmission Line (part	Power Line	SG20-106	CA	2.58	No	Y
Black Coulee Substation	Substation	SG20-097	CA	3.39	No	Y
Distribution Line	Power Line	SG20-097	CA	1.36	No	Y

What the Program Sees



DISTURBANCES WITHIN 4 MILES OF A LEK

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[Reset](#) [Download Table](#)

Disturbance Name	Disturbance Type	Lek Name	Lek Status	Miles to Lek Point	Intersects with Lek NSOA Polygon?	Visible to Public
115kV Transmission Line (part	Power Line	SG20-097	CA	3.41	No	Yes
115kV Transmission Line (part	Power Line	SG20-106	CA	2.58	No	Yes
Black Coulee Substation	Substation	SG20-097	CA	3.39	No	Yes
Distribution Line	Power Line	SG20-097	CA	1.36	No	Yes

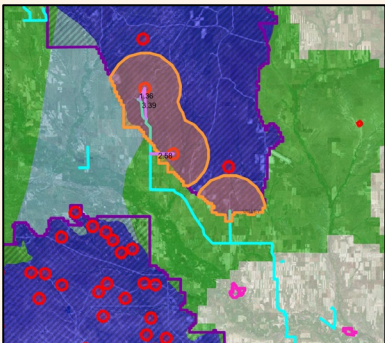
What the Program Sees

ATTACHMENTS

Currently viewing 54 of 54 Attachments

[Create New Attachment](#) [Reset](#) [Download Table](#)

		File Name	Title	Type	Uploaded	Uploaded By	Visible to Public
					From: <input type="text"/> To: <input type="text"/>		
		NorVal Sage Grouse Submitt	NorVal Sage Grouse Submittal_4-18-18	Correspondence (DOC, DOC)	04/18/2018 2:39 PM	Patty Hamblock	Yes
		Project_DueDiligence_20180	Due Diligence Project Snapshot taken	Project Map Snapshot	04/18/2018 2:42 PM	Patty Hamblock	No



DISTURBANCES WITHIN 4 MILES OF A LEK

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What the Program Sees

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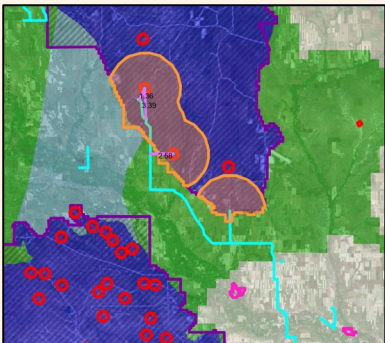
	File Name	Title	Type	Uploaded	Uploaded By	Visible to Public	
				From: <input type="text"/> To: <input type="text"/>			
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	Project_DueDiligence_20180	Due Diligence Project Snapshot taken	Project Map Snapshot	04/18/2018 2:42 PM	Patty Hamblock	No	

HISTORY

Currently viewing 77 of 77 Events

[Create New Event](#) [Reset](#) [Download Table](#)

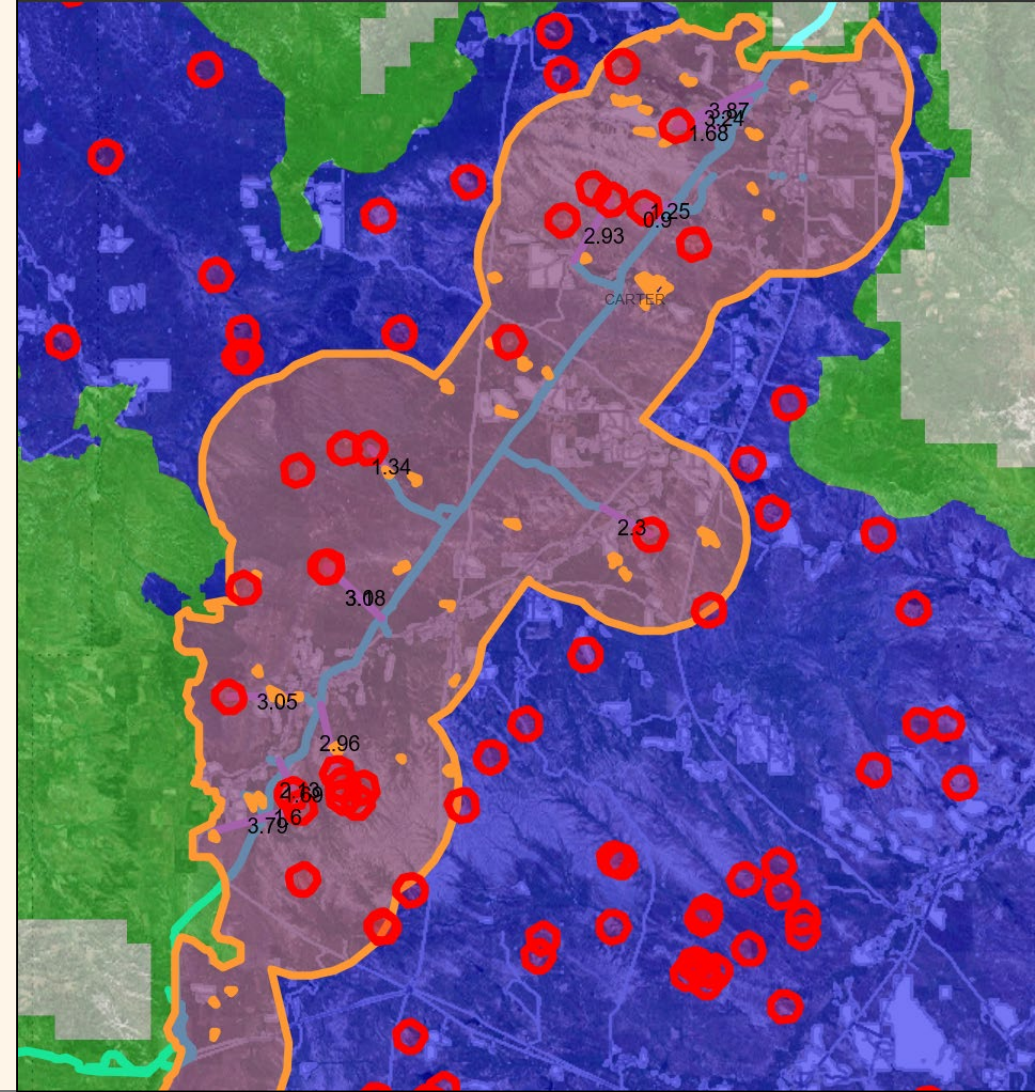
	Date	Triggered By	Event Type	Project Stage	Created By	Description
	From: <input type="text"/> To: <input type="text"/>					
	11/15/2018 7:47 AM	Therese Hartman	System Notification	Due Diligence	System	Email sent to thartman@mt.gov
	11/15/2018 7:47 AM	Patty Hamblock	Project Stage Trans	Due Diligence	System	Project Submitted for Review



Example: Buried Pipeline

Disturbance & Other Considerations

- Exceeds 5% threshold
- Affects 24 leks
- Too close to some leks



DDCT RESULTS

DDCT Analysis Area	Proposed Disturbances Area	Existing + Proposed Disturbances Area within DDCT Analysis Area	DDCT Result	New disturbed acres	Affected Leks within the DDCT Analysis Area
368,715 acres	668.15 acres	26,699.41 acres	7.24%	505.99 acres	24



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How Developers Harness Technology to Make Better Decisions

- Play in the Sandbox; project data stored
- Proactive siting and design: avoid sensitive areas
- Proactive siting and design: stay below disturbance thresholds



USFWS

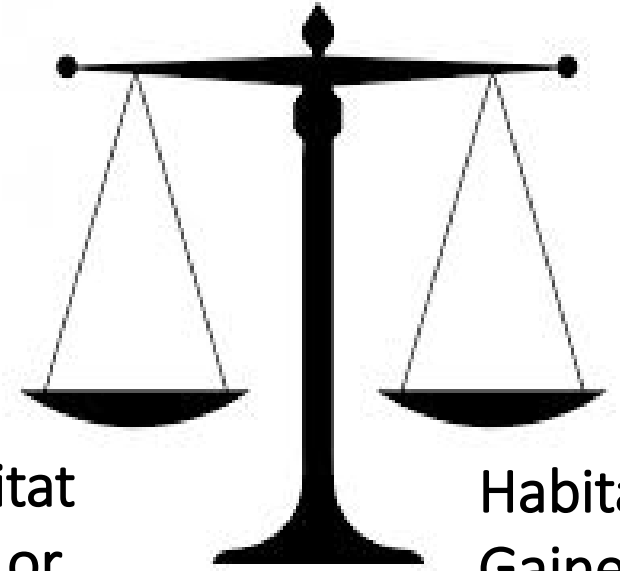
How the Program Harnesses Technology to Make Better Decisions

- Live geospatial database keeps track of accumulated disturbance
 - allowable thresholds at project scale
 - accumulation of total disturbance at multiple scales
- Back-end SQL database for tabular data + stored spatial data
- Automation
- Record keeping; event histories



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Why does it matter?



Habitat
Lost or
Impacted

Habitat
Gained or
Conserved

*Mitigation to Sustain the
Ecosystem:
no net loss, net gain preferred*

Why Does it
Really
Matter?



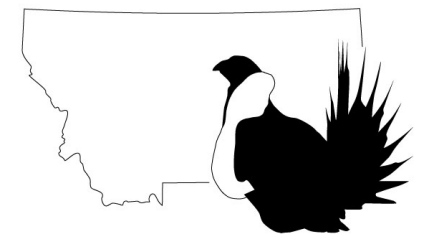
- Everyone Makes Better Decisions
- Conserve Habitat
- Maintain Viable Populations



Photo: Joel Maes



Carolyn Sime
Therese Hartman
Graham Neale
Jamie McFadden



MONTANA SAGE GROUSE
Habitat Conservation Program

