Harnessing Technology to Conserve a Wild Icon of the West

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

Carolyn Sime

ACES: December 4, 2018

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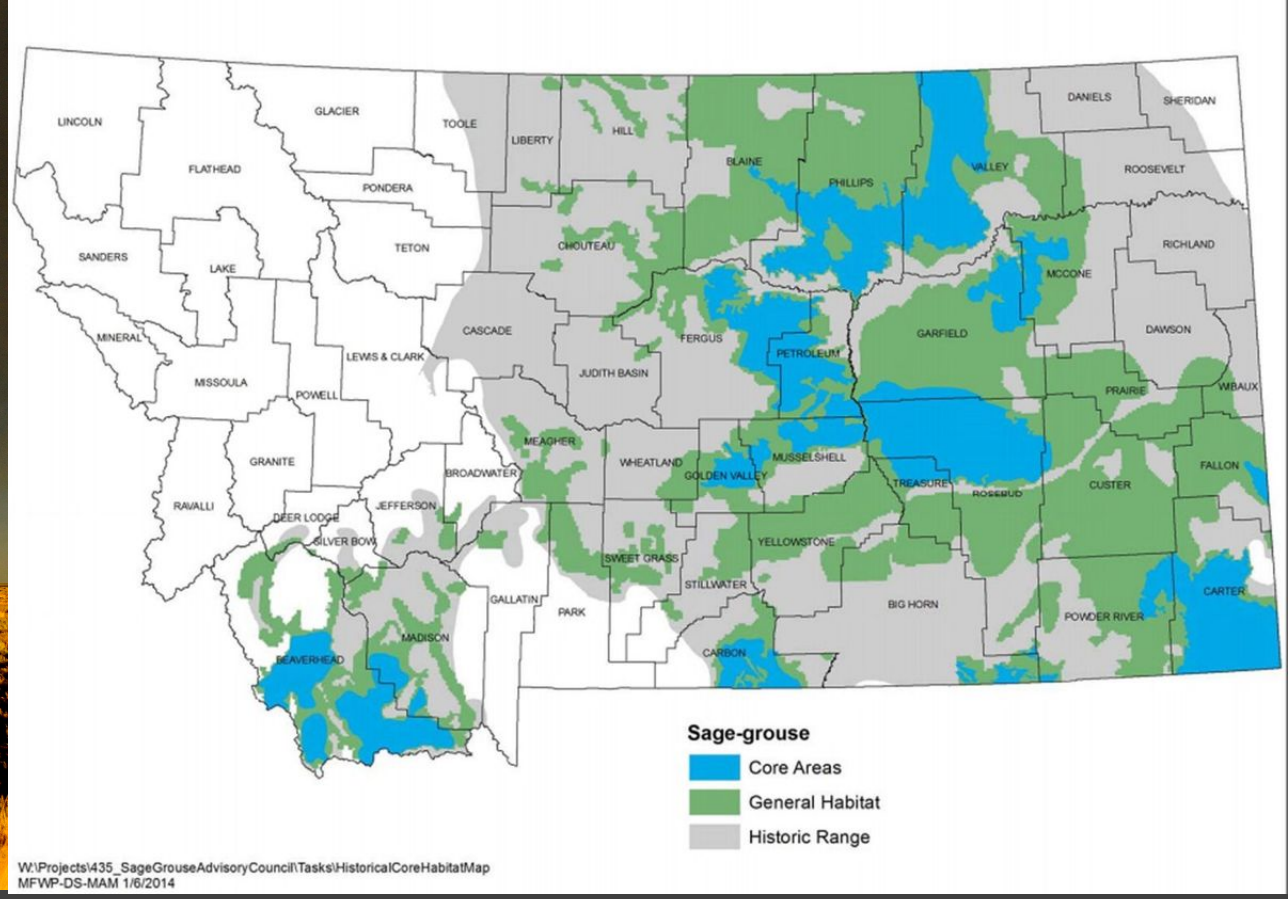
Habitat Conservation Program



Historic Sage Grouse Declines

Other Sagebrush – Grassland Species, too

Ecological Realities of Greater Sage-Grouse


MFWP

- 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

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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*

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

Lorelle Berkley

Montana's Conservation Strategy

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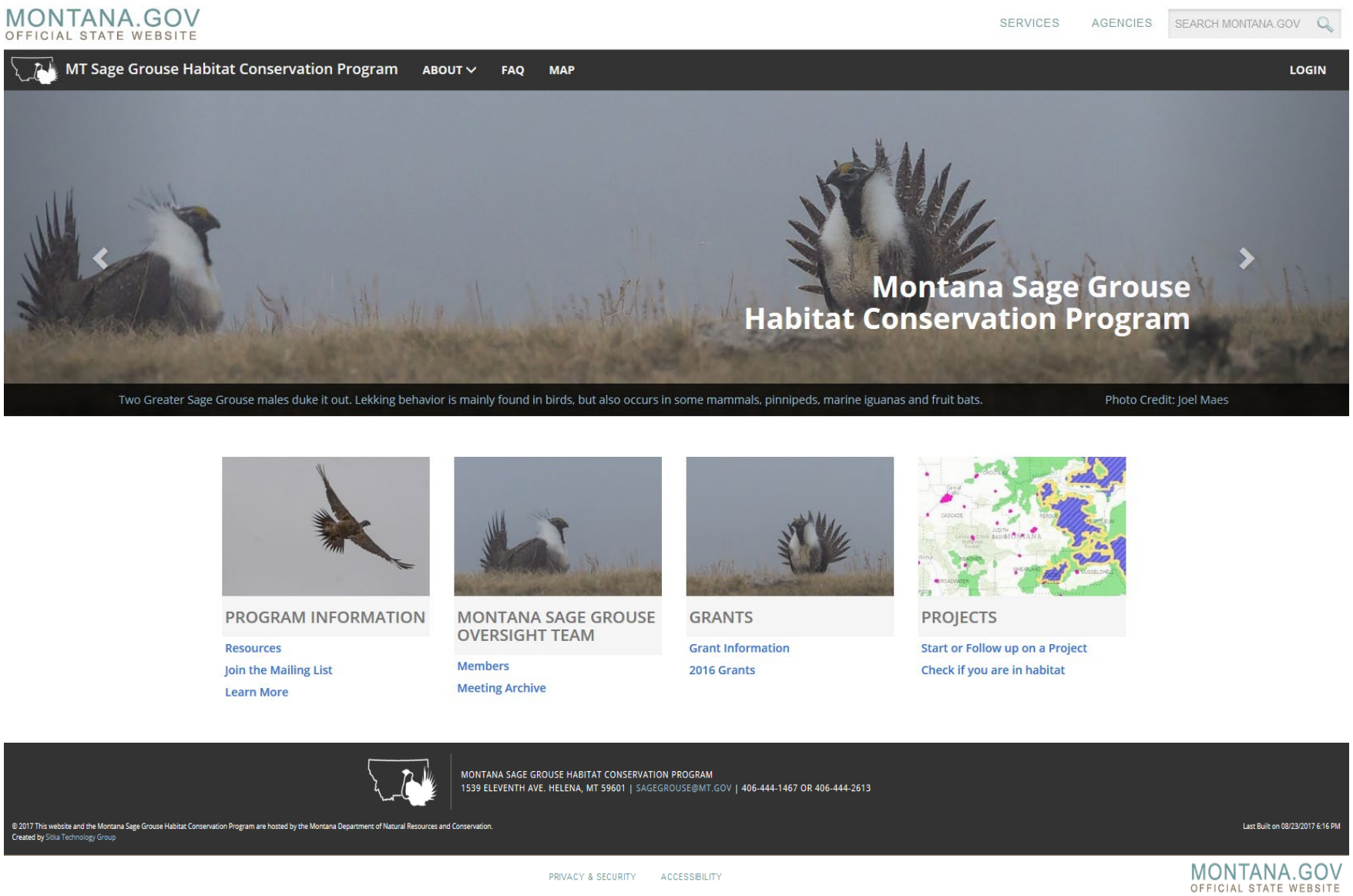
Goal:

- Conserve Habitat
- Maintain Viable Populations

Lorelle Berkley

Harnessing Technology for Conservation: developers & regulators



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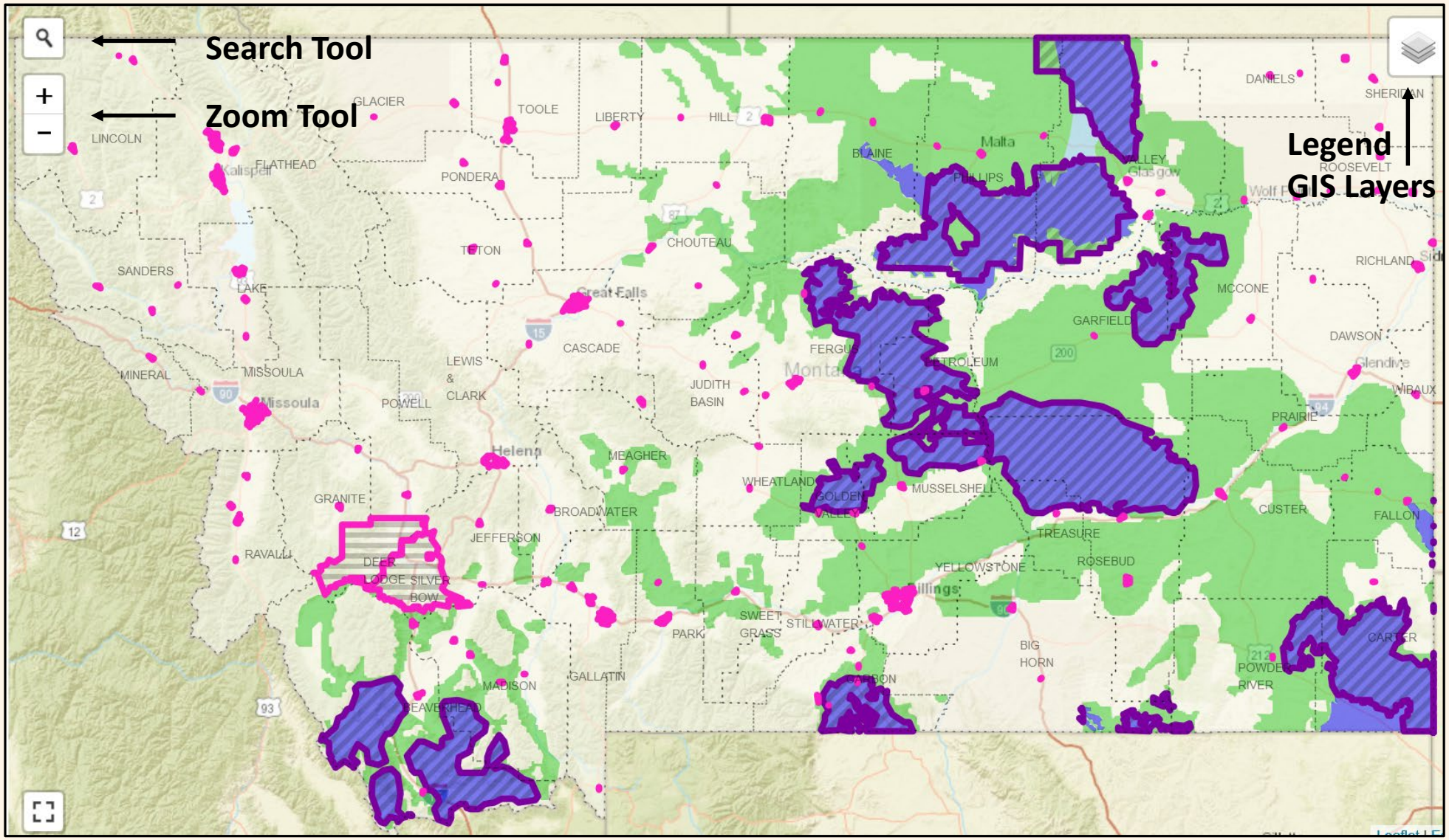
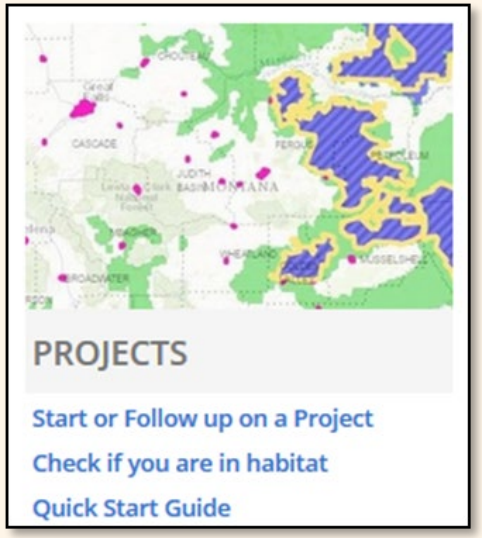
How Developers Harness Technology:

Interactive Web-based Consultation Process

Areas of Focus for Sage Grouse Conservation
Does it apply to me?



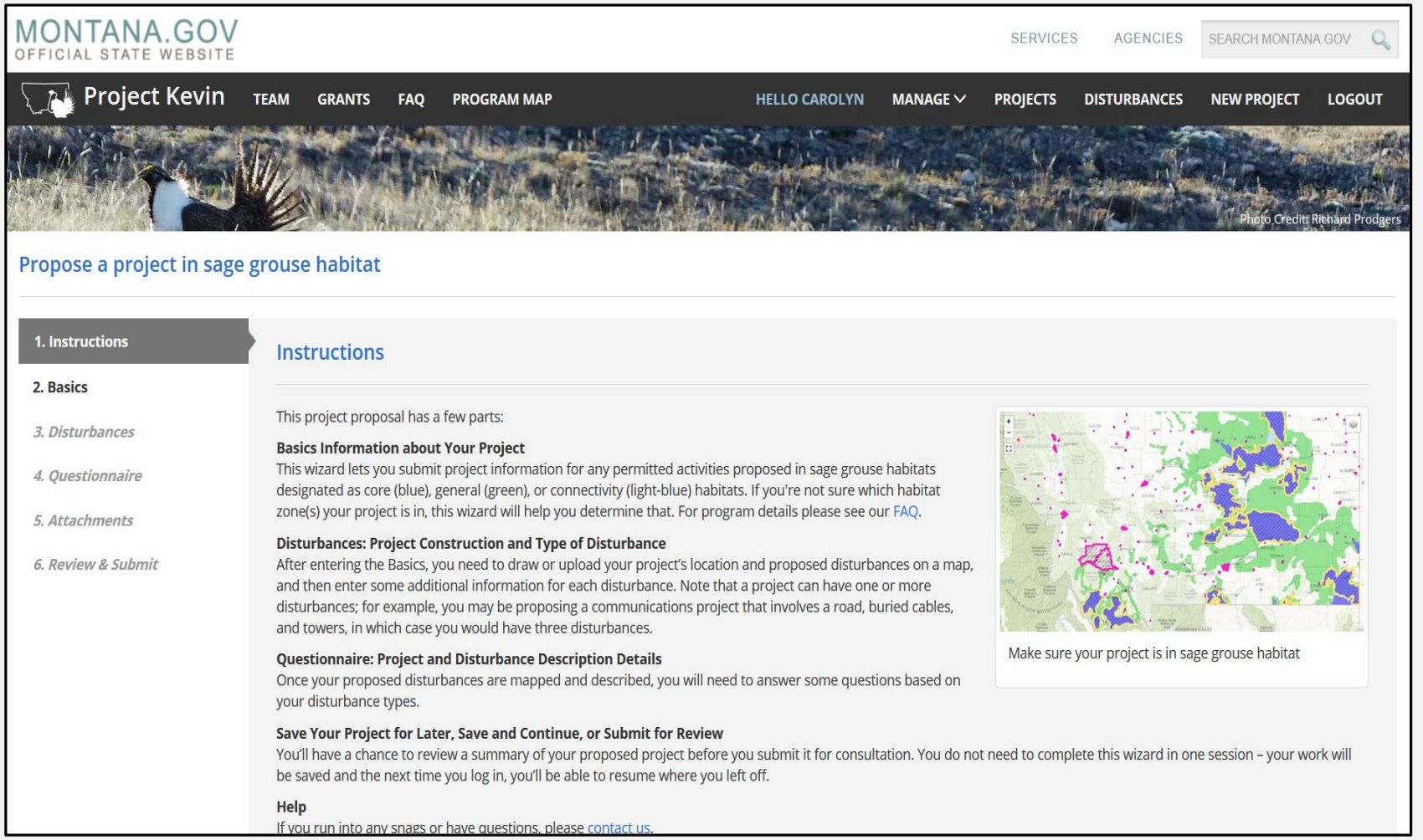


Log into the System

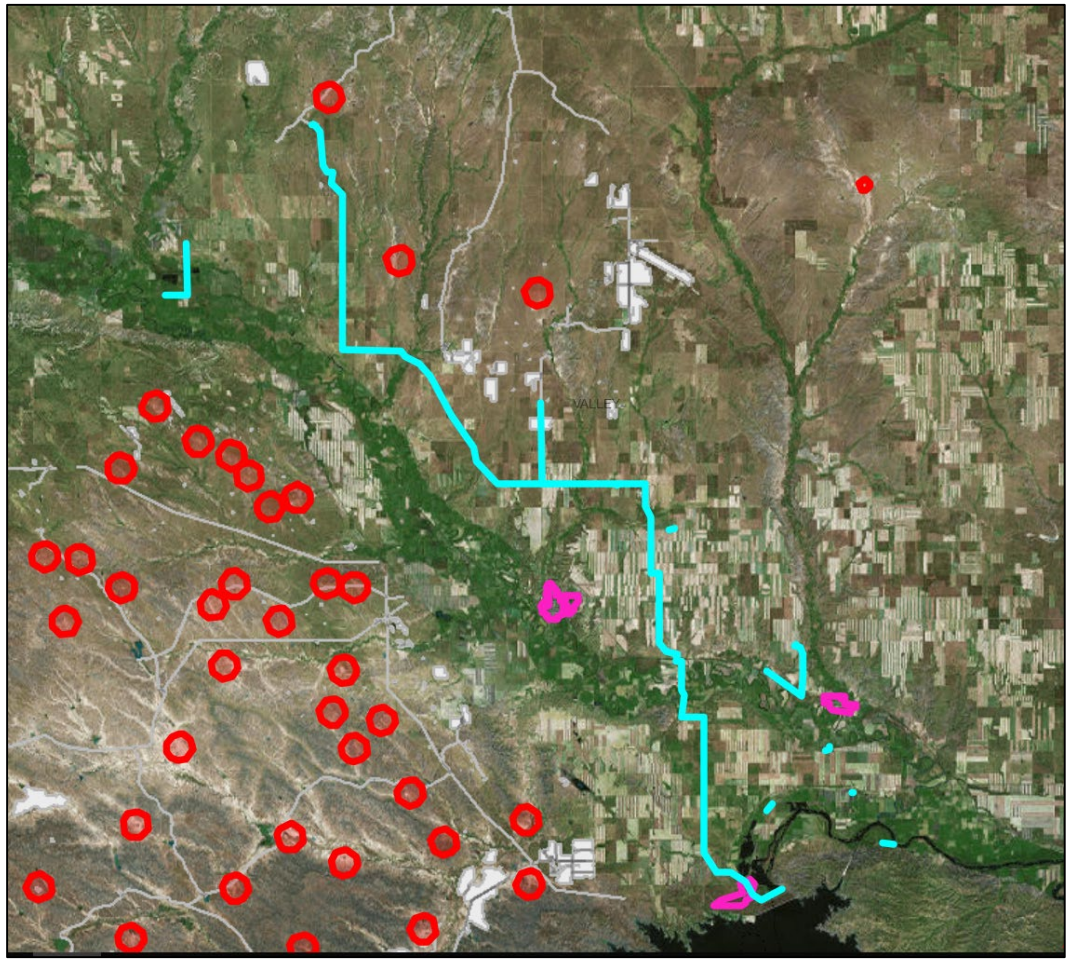
Read Instructions & Work Through Steps 1-6

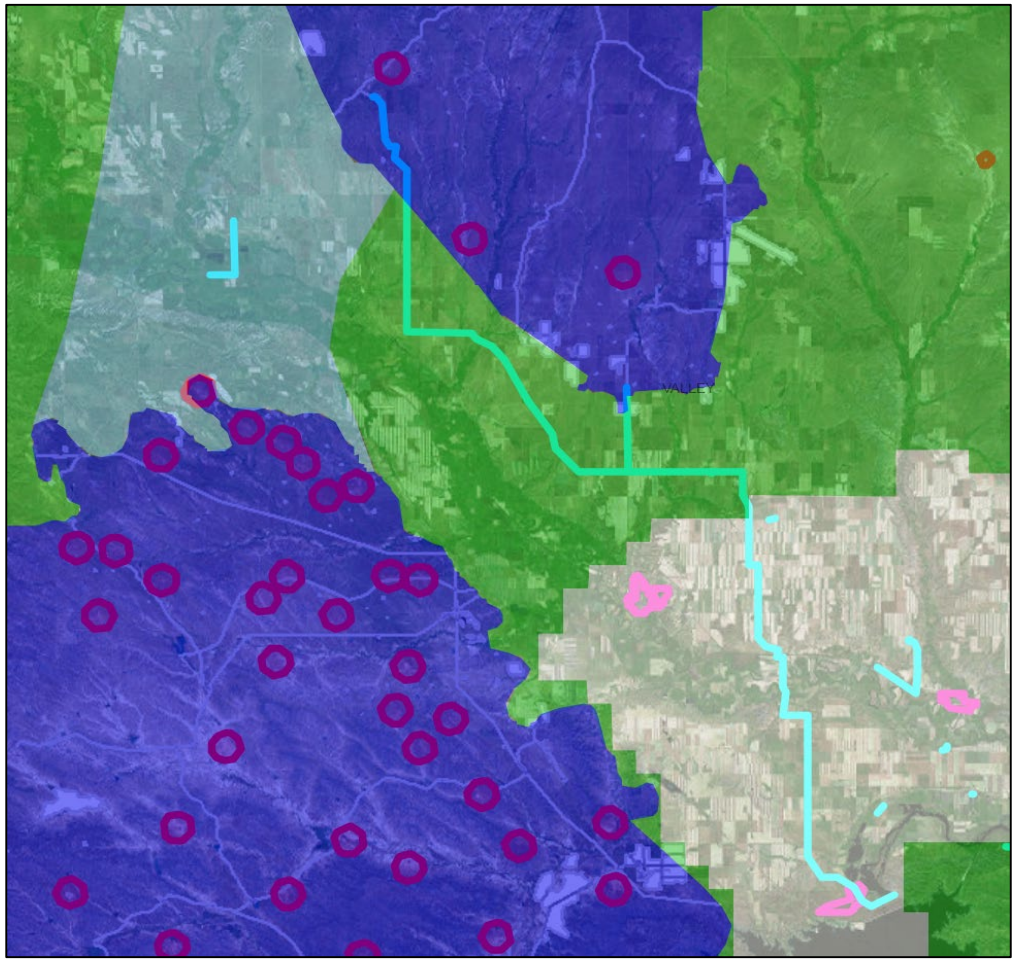
1. **Answer Dynamic Questionnaire**

2. **Provide Spatial Data**



Example: Transmission Line





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

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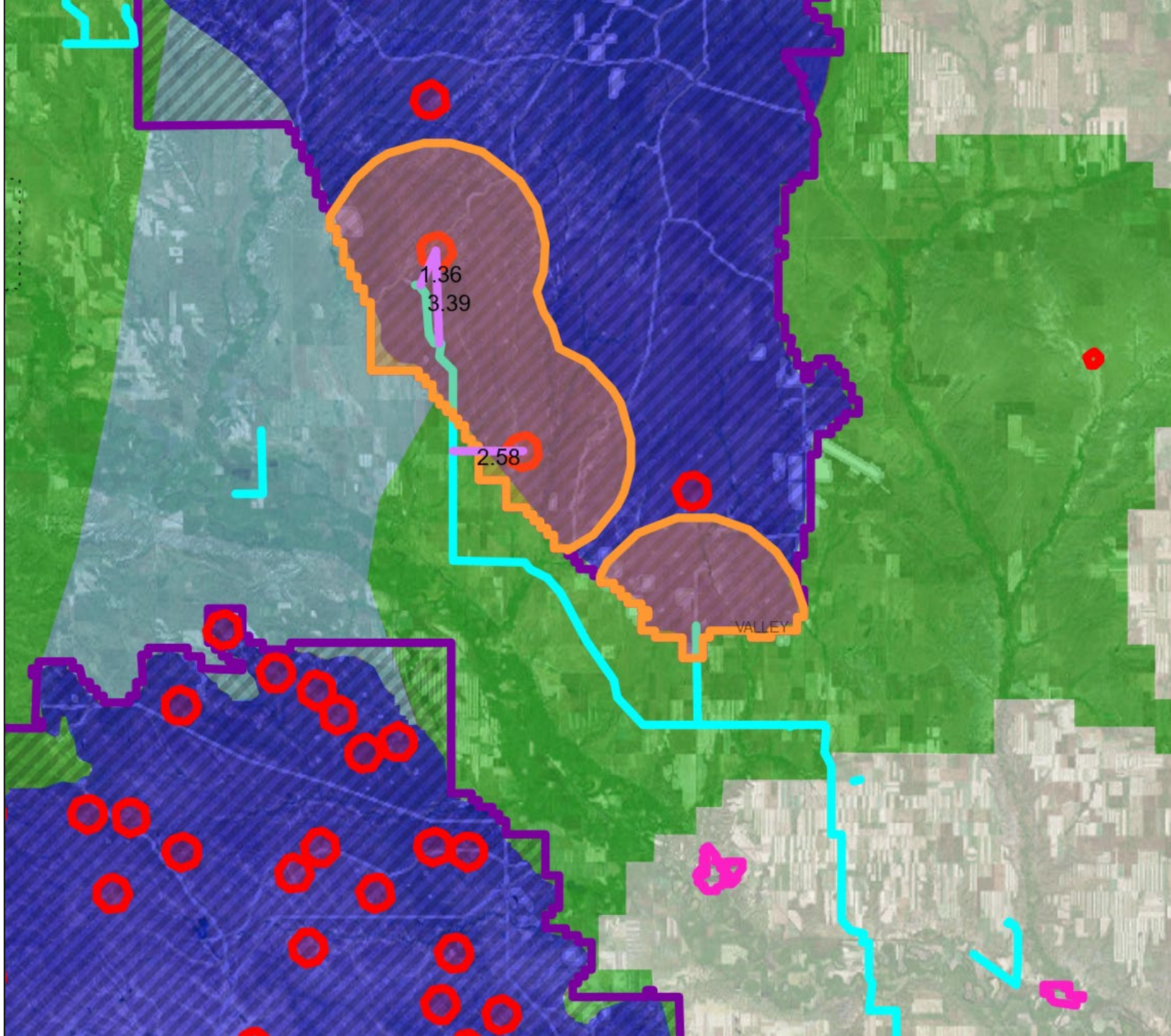
Disturbance Calculator

- Buffer leks by 4 miles
- Account for existing disturbances
- Calculate % new impact
- “Clip”
- Compare to 5% allowable threshold

Other Considerations

- proximity to leks a problem



What the Developer Sees

Below 5% ?

DDCT RESULTS

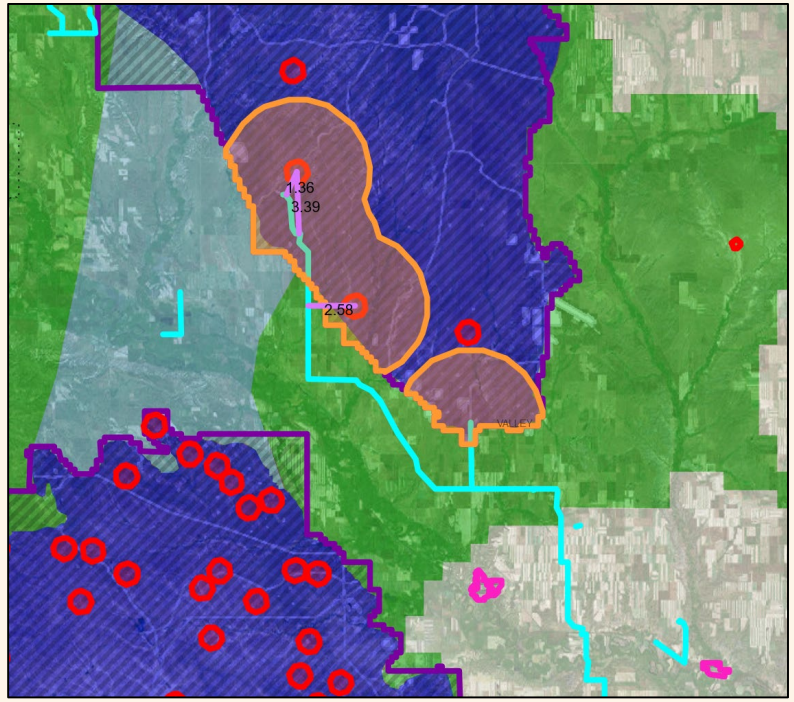
DDCT Analysis Area	Proposed Disturbances Area	Existing + Proposed Disturbances Area within DDCT Analysis Area	DDCT Result	New disturbed acres	Affected Leks within the DDCT Analysis Area
71,845.19 acres	9 acres	2,100.89 acres	2.92%	5.94 acres	2

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



What the Program Sees

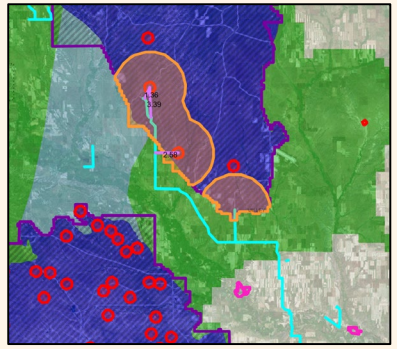
DISTURBANCES WITHIN 4 MILES OF A LEK

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?	W A
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



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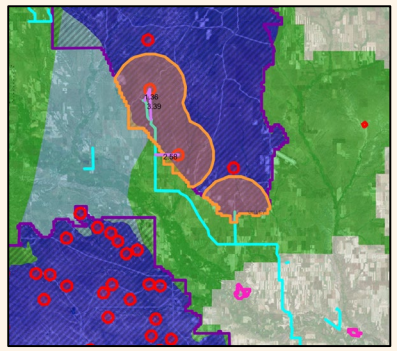

ATTACHMENTS

Currently viewing 54 of 54 Attachments

Create New Attachment | Reset | Download Table

			File Name	Title	Type	Uploaded	Uploaded By	Visible to Publi
						From: To:		
			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

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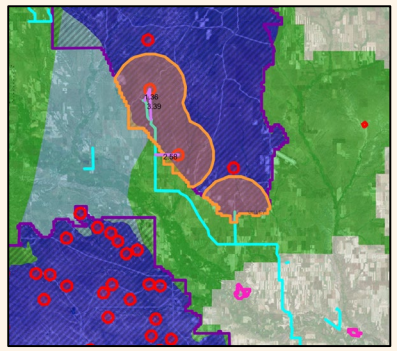


HISTORY

Currently viewing 77 of 77 Events

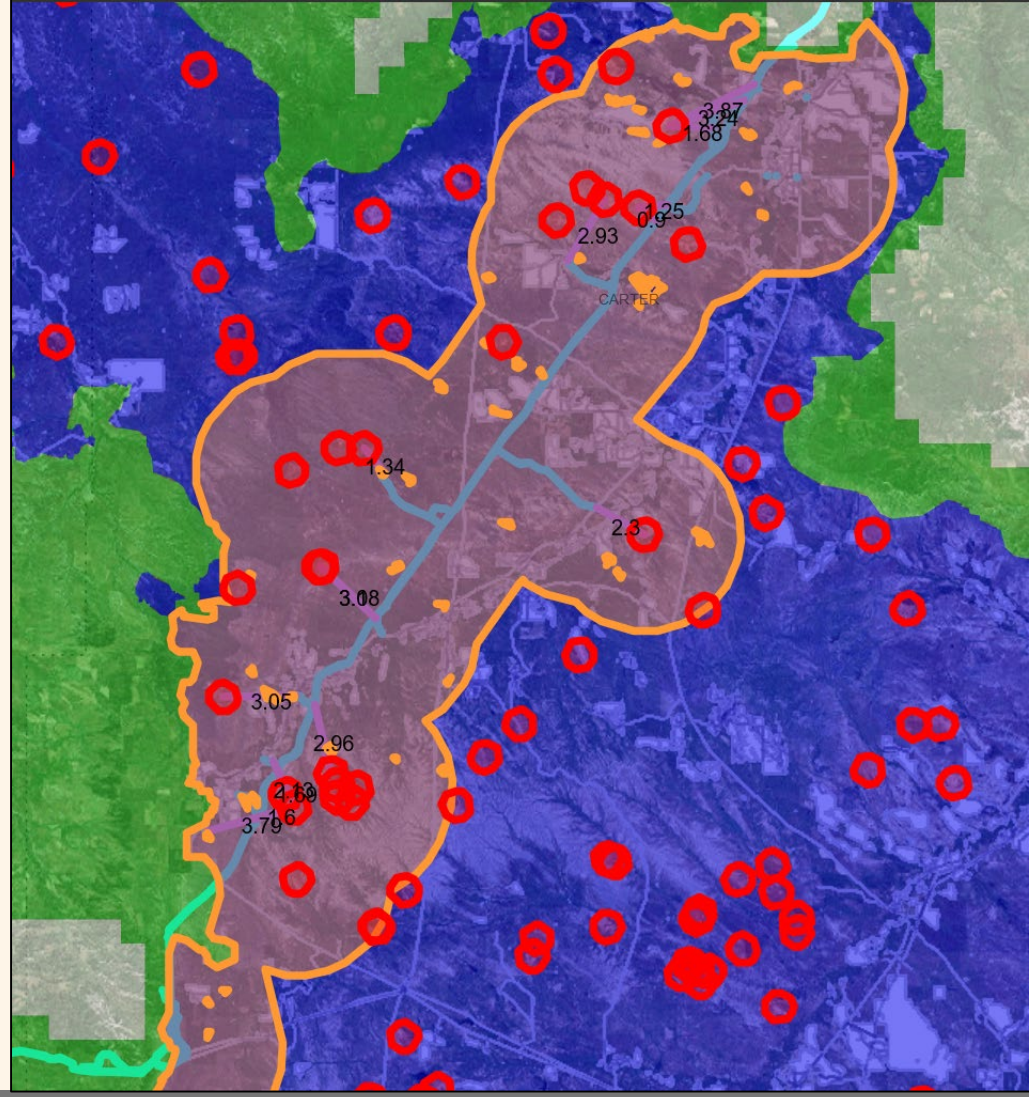
Create New Event | Reset | Download Table

		Date	Triggered By	Event Type	Project Stage	Created By	Description
		From: To:					
		11/15/2018 7:47 AM	Therese Hartman	System Notificatio	Due Diligence	System	Email sent to thartman@mt.gov
		11/15/2018 7:47 AM	Patty Hamblock	Project Stage Tran	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

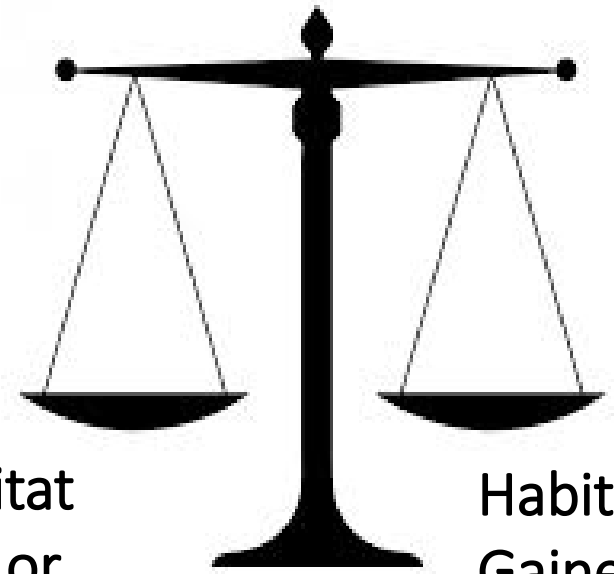
How Developers Harness Technology to Make Better Decisions

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

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

Why does it matter?



Habitat Lost or Impacted

Habitat Gained or Conserved

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

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Why Does it *Really* Matter?

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

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2018 ACES
A Community on Ecosystem Services
How Natural Resources Benefit People
Celebrating 10 years of ACES!

Carolyn Sime
Therese Hartman
Graham Neale
Jamie McFadden

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MONTANA DNRC