

**From:** [DElia, Jesse](#)  
**To:** [Ted Koch](#); [Paul Henson](#); [Jeffrey Dillon](#); [Dennis Mackey](#); [Kathleen Hendricks](#); [Jason Pyron](#); [Jeff Everett](#); [Larry Crist](#); [Jay Martini](#); [Ronald Baxter](#)  
**Cc:** [Pat Deibert](#)  
**Subject:** Fwd: FW: Current and Projected Disturbance Table  
**Date:** Wednesday, January 21, 2015 3:53:26 PM  
**Attachments:** [Existing Rights and Future Projections Table - Final.docx](#)  
[Table 2 GB Existing Conditions-Projections Methodologies - GIS Final Notes version 12\\_23\\_14.docx](#)

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For discussion on our Great Basin sage-grouse call today at 3pm pacific time.

----- Forwarded message -----

**From:** **Ted Koch** <[ted\\_koch@fws.gov](mailto:ted_koch@fws.gov)>  
**Date:** Tue, Jan 20, 2015 at 3:38 PM  
**Subject:** FW: Current and Projected Disturbance Table  
**To:** Terry Rabot <[theresa\\_rabot@fws.gov](mailto:theresa_rabot@fws.gov)>  
**Cc:** Jesse DElia <[jesse\\_delia@fws.gov](mailto:jesse_delia@fws.gov)>, Mary Grim <[mary\\_grim@fws.gov](mailto:mary_grim@fws.gov)>, Michael Fris <[michael\\_fris@fws.gov](mailto:michael_fris@fws.gov)>

Terry-

As we discussed last week, the BLM still has not fully completed the "Table 2" calculating levels of disturbance that we discussed at the Portland Federal Family meeting in August. Nevada completed it and shared it with the other Great Basin states, but to my knowledge none of them have completed it.

You may recall that Amy also supported completing this analysis in August. Do you want to reach out to her and ask her if she still supports the other Great Basin states completing their part, and if so, when it will be done?

Thanks,

Ted

Ted Koch

Nevada State Supervisor

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**From:** Tague, Melvin (Joe) [mailto:[jtague@blm.gov](mailto:jtague@blm.gov)]

**Sent:** Tuesday, December 23, 2014 4:32 PM

**To:** Lauren Mermejo; Jonathan Beck; Quincy Bahr; Frank Quamen; Joan Suther; Koch, Ted; Ronald Baxter; Randall Sharp

**Subject:** Current and Projected Disturbance Table

We have been working on a repeatable and defensible process to calculate the current and projected (existing rights) levels of disturbance. Attached are a protocol methods paper and the table completed for Nevada. This is the table we agreed to produce for the FWS at the August Federal Family Meeting.

I am moving on to my new position so send your completed table to Randy and Lauren.

Joe

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Joe Tague

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**Jesse D'Elia, Ph.D.**

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**Draft Deliberative Internal Working Document – Do not disclose**

Great Basin Existing Disturbance/Projections of Future Development											
Resource Allocation		NV/CA		OR		ID		SW MT		UT	
		Acres	% Habitat	Acres	% Habitat	Acres	% Habitat	Acres	% Habitat	Acres	% Habitat
Solar	Acres of Habitat currently authorized	0	0								
	Projection of future development (RFDs)	0	0								
Wind	Acres of Habitat currently authorized	332	0.0020%								
	Projection of future development (RFDs)	0	0								
Utility Corridors	Acres of Habitat currently authorized	222,969	1.35%								
	Projection of future development (RFDs)	0	0								
Transmission Lines	Acres of Habitat currently authorized	4,219	0.0400%								
	Projection of										

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	future development (RFDs)										
Railroads	Acres of Habitat currently authorized	732	0.0040%								
	Projection of future development (RFDs)	0	0								
Communication Sites	Acres of Habitat currently authorized	218	0.0013%								
	Projection of future development (RFDs)	0	0								
Fluid Minerals (Oil & Gas)	Acres of Habitat currently authorized	403	0.0024%								
	Projection of future development (RFDs)	1,040	0.0059%								
Fluid Minerals (Geothermal)	Acres of Habitat currently authorized	9,638	0.0600%								
	Projection of future development (RFDs)	720	0.0041%								
Non-energy Leasable Minerals	Acres of Habitat currently authorized	0	0								
	Projection of future development (RFDs)	0	0								
Salable Minerals (Mineral Materials)	Acres of Habitat currently authorized	24,602	0.1500%%								

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	Projection of future development (RFDs)	0	0								
Locatables	Acres of Habitat currently authorized	36,475	0.2210%								
	Projection of future development (RFDs)	10,764	0.113%								
<b>Totals</b>											
<b>Current</b>		310,350	1.88%								
<b>Future</b>		12,524	0.08%								
<b>Grand Total</b>		322,874	1.96%								

This is a calculation of the existing disturbance on BLM/FS lands and a projection of future disturbance based on existing rights to develop.

**Valid Existing Rights  
Current and Future Disturbance  
12/11/14**

**I. Introduction**

The purpose of this analysis is to display the anticipated disturbance related to the development of valid existing rights (VER) within greater sage-grouse habitat. The approach is to first calculate the existing disturbance associated with the VER and then secondly display the projected disturbance associated with the existing authorization or in the case of locatable minerals projected development. This is not the same as identifying the allocations. The goal is to have a consistent methodology (within the limits of available data) between each sub-regional planning effort.

The programs that will be analyzed are: Wind, Solar, Rights-of-Way Corridors, Linear Rights-of-Way (Transmission Lines and Railroads), Other Rights-of-Way (Communication Towers), Fluid Minerals (Oil and Gas and Geothermal) Development, Non-Energy Leasable Minerals, Salable Minerals, and Locatable Minerals.

The following is the protocol, both in terms of GIS layers and process, for determining Current disturbance and Future disturbance associated with VER. All data layers will be intersected with the sub-regionals occupied habitat layer to determine actual acres

**II. Protocol**

**1) Solar**

- A) Current:-** GIS Layer: Solar PEIS data from <http://solareis.anl.gov/maps/index.cfm>
- B) Future:-** Project future amount of disturbance based on pending applications or other expressions of interest that are allowed based on allocation in proposed plan.

**2) Wind**

- A) Current:-**GIS layer: WindEnergyROW- Select the Authorized layer
- B) Future:-** Project future amount of disturbance based on pending applications or other expressions of interest that are allowed based on allocation in proposed plan.

**3) Rights of Way:**

**Utility Corridors**

- A) Current:-**GIS layer used: Utility Corridors
- B) Future:** Project future amount of disturbance based on pending applications or other expressions of interest that are allowed based on allocation in proposed plan.

**Transmission Lines**

- A) **Current:** GIS layer used: Transmission line layer Check for overlap areas of Transmission lines and Utility Corridors by doing a spatial reselect Remove transmission lines from those areas
- B) **Future:** Project future amount of disturbance based on pending applications or other expressions of interest that are allowed based on allocation in proposed plan.

#### **Railroads**

- A) **Current:** GIS Layer use: Railroads – active
- B) **Future:** Project future amount of disturbance based on pending applications or other expressions of interest that are allowed based on allocation in proposed plan.

#### **Communication Towers**

**Current:** GIS Layer use Communication tower and buffer 1 acre around site

- A) **Future:** Project future amount of disturbance based on pending applications or other expression of interest

### **4) Fluid Minerals**

#### **Oil and Gas**

- A) **Current:** GIS Layer used: Use Existing Disturbance information layer
- B) **Future:** Use the Reasonable Foreseeable Development scenario and existing leases. Use the ratio of leases intersecting habitat and not intersecting habitat as the ratio of development to occur in habitat. For example, in Nevada it is anticipated an additional 20 production wells within the planning area. Each development, i.e. production well, would result in 130 acres of disturbance. To determine the disturbance to GRSG, the ratio of existing leases to leases intersecting GRSG habitat is used to calculate the acres disturbed. 40% of the current O/G leases in the planning area, intersect PPH/PGH Thus  $20 \text{ production wells} \times 130 \text{ acres} \times 40\% = 1040 \text{ acres disturbed}$

#### **Geothermal**

- A) **Current:** Geothermal\_Leases\_Approved
- B) **Future:** Use the Reasonable Foreseeable Development scenario and existing leases. Use the ratio of leases intersecting habitat and not intersecting habitat as the ratio of development to occur in habitat. For example, in Nevada it is projected that in the next 20 years there will be an additional 322 MW capacity developed from existing leases as a result of an additional 12 power plants. Each power plant will result in approximately 60 acres of disturbance, which includes well development, power plant development and access roads/pipelines. The Reasonable Foreseeable Development scenario describes the likelihood of development within the planning area. To determine the disturbance to GRSG, the ratio of existing leases to leases intersecting GRSG habitat is used to calculate the acres disturbed. The ratio of existing leases within GRSG habitat in the planning areas is 10%. Thus  $12 \text{ power plants} \times 60 \text{ acres/plant} \times .10 = 720 \text{ acres of additional disturbance as a result of development of valid existing rights.}$

## 5) Non-Energy Leasable Minerals

**A) Current:** NonEnergy

**B) Future:** Project future amount of disturbance based on pending applications or other expressions of interest that are allowed based on allocation in proposed plan

## 6) Salable Minerals (Mineral Materials):

**A) Current:** Use GIS Layer-Min\_Mat\_Dispatch\_Sites\_12282012

**B) Current:** Project future amount of disturbance based on pending applications or other expressions of interest that are allowed based on allocation in proposed plan

## 7) Locatable Minerals:

**A) Current:** GIS layer LR2000 –

1. An excel file was pulled from LR2000 for active locatables
2. It was joined with Township, Range and Section data in GIS
3. If the TRS intersected with Sage-Grouse habitat it was pulled and a new GIS layer was created
4. The new GIS intersected data with the joined LR2000 data was exported to excel
5. The excel file was then used to sum the TltCaseAcres (from the LR2000 data as the accurate current disturbance acres) for each unique case.

**B) Future:** Project future amount of disturbance based on submitted Plans of Operation that are under review.

## III. Summary of Acres and Percent of Habitat

Nevada/Northeastern California		
Program	Acres	% of Habitat
<b>Solar</b>		
Current	0 acres	
Future	No additional acres	
<b>Wind</b>		
Current	332 acres	0.0020%
Future	No Additional acres	
<b>Utility Corridors</b>		
Current	222,969 acres	1.35%
Future	No Additional acres	
<b>Transmission Lines</b>		
Current	4,219 acres	0.04%
Future	No additional acres	
<b>Railroads</b>		
Future	732 acres	0.004%
Current	No additional acres	
<b>Communication Sites</b>		
Current	218 acres	0.0013%
Future	No additional acres	



<b>Oil and Gas</b>			
	<b>Current</b>	403 acres	0.0024%
	<b>Future</b>	Additional 1040 acres	0.0059 %
<b>Geothermal</b>			
	<b>Current</b>	9,638 acres	0.06%
	<b>Future</b>	Additional 720 acres	0.0041%
<b>Non-Energy Leasable</b>			
	<b>Current</b>	0 aces	0.0%
	<b>Future</b>	No additional acres	
<b>Saleable Minerals</b>			
	<b>Current</b>	24,602 acres	0.15%
	<b>Future</b>	No additional acres	
<b>Locatable</b>			
	<b>Current</b>	36,475 acres	0.221%
	<b>Future</b>	10,764 acres	0.113%
<b>Total</b>			
	<b>Current</b>	310,350	1.88%
	<b>Future</b>	12,524	0.08%
	<b>Grand Total</b>	322,874	1.96%