

Appendix H

Anthropogenic Disturbance Calculation



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H. Anthropogenic Disturbance Calculation

Disturbance Density Calculation

GRSG Local/Site Disturbance Calculation

All sub-regions: Agreed to use the same types of disturbances for fine/site scale monitoring as were used for broad and mid-scale analysis. Would use local data and/or more current satellite imagery if available. Recognize that site specific data, where available, provide a more accurate measure of land cover, disturbance and conifer encroachment than Landfire. In the long-term, ensure fine/site scale monitoring provides results that can be used across the GRSG range and “rolled up” for reporting purposes. In the short term (<5 years), locally derived vegetation data may not be available or easily rolled up, so use of seamless land cover data such as Sagestitch is recommended.

Great Basin sub-regions agreed to use the same type of data sets as used for broad and mid-scale to monitor local/site level conditions. Supplement with local data where available and/or more accurate. The following data layers or local surrogate would be used.

1. Energy (oil and gas wells and development facilities) Based on local info, actual footprint; see NOC language for certain exceptions.
2. Energy (coal mines) Actual footprint
3. Energy (wind towers) Based on local info, actual footprint
4. Energy (solar fields) Based on local info, actual footprint
5. Energy (geothermal) Based on local info, actual footprint
6. Mining (active developments; locatable, leasable, saleable) Based on local info, actual footprint
7. Infrastructure (roads) actual footprint; see road attachment for specific guidance
8. Infrastructure (railroads) abandoned railroads are NOT a disturbance
9. Infrastructure (power lines) Using NOC guidance, apply these widths:
 - <100 kV: use ROW width
 - 100-199kV: 100 ft
 - 200-399kV: 150 ft
 - 400-699kV: 200 ft
 - 700-799kV: 250 ft
10. Infrastructure (communication towers, fire lookouts, met towers) Based on local info, actual footprint
11. Other developed rights-of-ways

The National Monitoring Framework lists the data sets by threat. These are:

FWS Listing Decision Threat	Sagebrush Habitat Availability	Habitat Degradation (Human Activities)	Density of Energy and Mining Facilities
Agriculture	X		
Urbanization	X		
Wildfire	X		
Conifer encroachment	X		
Treatments	X*		
Invasive Species	X*		
Energy (oil and gas wells and development facilities)		X	X
Energy (coal mines)		X	X
Energy (wind towers)		X	X
Energy (solar fields)		X	X
Energy (geothermal)		X	X
Mining (active locatable, leasable, and salable developments)		X	X
Infrastructure (roads)		X	
Infrastructure (railroads)		X	
Infrastructure (power lines)		X	
Infrastructure (communication towers)		X	
Infrastructure (other vertical structures)		X	
Other developed rights of ways		X*	

The following data sets would *not* be used to calculate anthropogenic disturbance, but would be used in the habitat baseline to estimate habitat availability or the amount of sagebrush on the landscape within biologically significant units. Use best available data, where Landfire or Sagestitch could be used for biophysical setting (bps), compared to existing vegetation type.

1. Habitat treatments
2. Wildfire
3. Invasive plants
4. Conifer encroachment
5. Agriculture
6. Urbanization, Ex-urban and rural development

Biologically Significant Unit:

Idaho proposes use of Priority and Important Habitat Management Areas that generally match PACs, but also anticipates assessing disturbance at other scales including nesting and winter habitat, 5 km lek neighborhood, Conservation Areas and/or at the project-scale, depending on need.

For all subregions, data from these units would be rolled up to the PAC and WAFWA Management Zone, to meet FWS needs. In addition, units must be edge matched/aligned with neighboring states. All sub-regions acknowledge there may be locally important biologically significant units smaller than PACs which may or may not be rolled up to PAC level. The Subregions also acknowledge that assessing disturbance at larger scales such as certain PACs, or via rollup of data, provides a baseline metric for future comparison, but dilution may likely mask disturbance concerns occurring at more local scales.

Travel and Transportation Disturbance in Sage-Grouse Habitat

The following would count as disturbance:

- Linear transportation features identified as roads that have a maintenance intensity of 3 or 5
- Linear transportation features identified as primitive roads, temporary routes, or administrative routes that have a functional classification and a maintenance intensity of level 3 or 5

Non-Disturbance

The following items would not count as disturbance:

- Linear transportation features identified as trails.

- Linear transportation features identified as primitive roads, temporary routes, or administrative routes that have a maintenance intensity of either level 0 or 1.
- Linear transportation features identified as primitive routes.
- Linear disturbances.

Travel and Transportation Management Definitions

Roads are linear routes managed for use by low clearance vehicles having four or more wheels, and are maintained for regular and continuous use.

Primitive Roads are linear routes managed for use by four-wheel drive or high-clearance vehicles. They do not normally meet any design standards.

Trails are linear routes managed for human-powered, stock, or OHV forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.

Linear Disturbances are human-made linear features that are not part of the designated transportation network are identified as “Transportation Linear Disturbances.” These may include engineered (planned) as well as unplanned single and two-track linear features that are not part of the BLM’s transportation system.

Primitive Routes are any transportation linear feature located within a WSA or lands with wilderness characteristics designated for protection by a land use plan and not meeting the wilderness inventory road definition.

Temporary routes are short-term overland roads, primitive roads or trails which are authorized or acquired for the development, construction or staging of a project or event that has a finite lifespan. Temporary routes are not intended to be part of the permanent or designated transportation network and must be reclaimed when their intended purpose(s) has been fulfilled. Temporary routes should be constructed to minimum standards necessary to accommodate the intended use; the intent is that the project proponent (or their representative) will reclaim the route once the original project purpose or need has been completed. Temporary routes are considered emergency, single use or permitted activity access. Unless they are specifically intended to accommodate public use, they should not be made available for that use. A temporary route will be authorized or acquired for the specific time period and duration specified in the written authorization (permit, ROW, lease, contract etc.) and will be scheduled and budgeted for reclamation to prevent further vehicle use and soil erosion from occurring by providing adequate drainage and re-vegetation.

Administrative routes are those that are limited to authorized users (typically motorized access). These are existing routes that lead to developments that have an administrative purpose, where the agency or permitted user must have access for regular maintenance or operation. These authorized developments could include such items as power lines, cabins, weather stations, communication sites, spring



Maintenance Intensities

Level 0

Maintenance Description:

- Existing routes that will no longer be maintained and no longer be declared a route. Routes identified as Level 0 are identified for removal from the Transportation System entirely.

Maintenance Objectives:

- No planned annual maintenance.
- Meet identified environmental needs.
- No preventative maintenance or planned annual maintenance activities.

Level 1

Maintenance Description:

- Routes where minimum (low intensity) maintenance is required to protect adjacent lands and resource values. These roads may be impassable for extended periods of time.

Maintenance Objectives:

- Low (Minimal) maintenance intensity.
- Emphasis is given to maintaining drainage and runoff patterns as needed to protect adjacent lands. Grading, brushing, or slide removal is not performed unless route bed drainage is being adversely affected, causing erosion.
- Meet identified resource management objectives.
- Perform maintenance as necessary to protect adjacent lands and resource values.
- No preventative maintenance.
- Planned maintenance activities limited to environmental and resource protection.
- Route surface and other physical features are not maintained for regular traffic.

Level 3

Maintenance Description:

- Routes requiring moderate maintenance due to low volume use (for example, seasonally or year-round for commercial, recreational, or administrative access).

Maintenance Intensities may not provide year-round access but are intended to generally provide resources appropriate to keep the route in use for the majority of the year.

Maintenance Objectives:

- Medium (Moderate) maintenance intensity.
- Drainage structures will be maintained as needed. Surface maintenance will be conducted to provide a reasonable level of riding comfort at prudent speeds for the route conditions and intended use. Brushing is conducted as needed to improve sight distance when appropriate for management uses. Landslides adversely affecting drainage receive high priority for removal; otherwise, they will be removed on a scheduled basis.
- Meet identified environmental needs.
- Generally maintained for year-round traffic.
- Perform annual maintenance necessary to protect adjacent lands and resource values.
- Perform preventative maintenance as required to generally keep the route in acceptable condition.
- Planned maintenance activities should include environmental and resource protection efforts, annual route surface.
- Route surface and other physical features are maintained for regular traffic.

Level 5

Maintenance Description:

- Route for high (maximum) maintenance due to year-round needs, high volume of traffic, or significant use. Also may include route identified through management objectives as requiring high intensities of maintenance or to be maintained open on a year-round basis.

Maintenance Objectives:

- High (Maximum) maintenance intensity.
- The entire route will be maintained at least annually. Problems will be repaired as discovered. These routes may be closed or have limited access due to weather conditions but are generally intended for year-round use.
- Meet identified environmental needs.
- Generally maintained for year-round traffic.



- Perform annual maintenance necessary to protect adjacent lands and resource values.
- Perform preventative maintenance as required to generally keep the route in acceptable condition.
- Planned maintenance activities should include environmental and resource protection efforts, annual route surface.
- Route surface and other physical features are maintained for regular traffic.

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