

**Project Site Name:**

Total number of Map units within Project Site:

Map Unit Number:	Dates of map unit transects:	
Total number of transects:	Total number of photos:	
Names of transects:	Aspect of MU:	Slope of MU:
Map Unit Description (1 to 2 sentences describing vegetation, topography, and other features relevant to sage-grouse within map-unit):		
Notes:		

**Score Sheet for Rating Resistance and Resilience to Disturbance to Invasive Annual Grasses in the Great Basin** (adapted from Miller et al. 2014)

<b>Map Unit Name/Number:</b>	<b>Ecological Site Name/Number:</b>	<b>Date:</b>
<b>Acreage of Map Unit/Ecosite:</b>	<b>UTMs:</b>	
<b>SITE CHARACTERISTICS</b>	<b>SITE CONDITION (select one)</b>	<b>SITE SCORE</b>
<b>Temperature (Soil temperature regime + Species or subspecies of sagebrush) - Desktop</b>		
<b>Soil temperature regime</b>	<b>1</b> = hot-mesic <b>2</b> = warm-mesic <b>3</b> = cool-mesic or cool-cryic <b>4</b> = warm frigid <b>5</b> = cool-frigid <b>6</b> = warm-cryic	
<b>Species or subspecies of sagebrush</b>	<b>1</b> = Wyoming, low, black, or Lahontan <b>2</b> = basin, Bonneville, or xeric <b>3</b> = mountain	
<b>Moisture (Precipitation + Soil Texture + Soil Depth) - Desktop</b>		
<b>Precipitation (in)</b>	<b>1</b> = <10 <b>2</b> = 10-12 <b>3</b> = 12-14 <b>4</b> = >14	
<b>Soil texture</b>	<b>1</b> = clay, sand, or silt <b>2</b> = silty loam, sandy loam, or clay loam <b>3</b> = loam	
<b>Soil depth (in)</b>	<b>0</b> = very shallow (<10) <b>1</b> = shallow (10-20) <b>3</b> = moderately deep to deep	
<b>Vegetation (Plant groups modified by soil depth) - On-Site</b>		
<b>Plant Groups</b> Deep-rooted perennial grasses (DRPG) potentially dominant in shallow to deep soils >10 in.  Sandberg bluegrass (POSE) potentially dominant in very shallow soils <10 in.  Perennial forbs (PF)  Invasive annual grasses (IAG)	<b>0</b> = DRPG and POSE scarce to severely depleted (DRPG < 2-3/m <sup>2</sup> ) and less than 5% foliar cover <b>3</b> = DRPG on soils >10 in. scarce, but POSE or PF >50% foliar cover <b>6</b> = DRPG on soils >10 in. depleted (2-3/m <sup>2</sup> or about 5-10% foliar cover) and/or co-dominant with IAG, <b>or</b> on soils < 10 in. POSE and PF 5-15% foliar cover and co-dominant with IAG. <b>9</b> = DRPG and PF dominant on soils > 10 in. <b>or</b> POSE and PF dominant on soils < 10 in.	
<b>TOTAL:</b>		
<b>R &amp; R RATING (circle one)</b>	<b>Very low</b> < 10; <b>Low</b> = 10-14; <b>Moderate</b> = 15-20; <b>High</b> > 20	

## Guide to Soil Temperature Regime

	Hot-Mesic	Warm-Mesic	Cool-Mesic	Warm-Frigid	Cool-Frigid	Warm-Cryic	Cool-Cryic
<b>PPT (in)</b>	<4	4-8	8-12	12-14	14+	16+	18+
<b>Moisture Regime</b>	Dry Aridic	Typic Aridic	Aridic bordering Xeric	Xeric bordering Aridic	Typic Xeric	Typic Xeric	Typic Xeric
<b>Indicator Plants</b>	PIDE4, ATCO, SABA14, SAVE4, ACHY, LYSH, PLJA	PIDE4, ATCO, KRLA2, HECO26, ACHY	ARNO4, ARTRW8, JUOS, JUOC, ACTH7	ARNO4, ARAR8, ARTRV, ARTRW8, JUOS, JUOC, PIMO, ACTH7	ARTRV, SYMPH, AMAL2, PIMO, JUOS, JUOC, FEID, ACNE10, POTR5	ARTRV, ARSP8, ARAR8, SYMPH, AMAL2, CELE3, ABCO, POTR5	PIEN2, PIAR, PIFL2
<b>Ecological Zones</b>	Salt Desert Scrub	Desert Basin	Sagebrush Semi-Arid	Upland Sagebrush, Juniper/ Pinon	Upland Mountain Sagebrush, Pinon/ Juniper	Mountain Sagebrush	High Mountain

*\*Derive from NRCS Official Soil Series Description (OSDs) based on Soil Web Survey's Map Unit Descriptions*

*Example of Cool-Mesic (Doowak series):* The Doowak series consists of very deep, excessively drained soils

TAXONOMIC CLASS: Sandy-skeletal, mixed, mesic Xeric Torriorthents

TYPICAL PEDON: Doowak very gravelly loamy sand-rangeland.

The mean annual precipitation is 200 to 250 mm;

The present vegetation is mainly Wyoming big sagebrush, spiny hopsage, Thurber needlegrass, and Indian ricegrass.

### Ability to Control Wildfire Scorecard

<b>Map Unit Name/Number:</b>	<b>Ecological Site Name/Number:</b>	<b>Date:</b>
<b>Acreage of Map Unit/Ecosite:</b>	<b>UTMs:</b>	
<b>SITE CHARACTERISTICS</b>	<b>SITE CONDITION (select one)</b>	<b>SITE SCORE</b>
<b>Topography/ Access/ Response Time - Desktop</b>		
<b>Average percent slope in project area (GIS)</b>	<b>1</b> = 0-10% <b>3</b> = 11-25% <b>5</b> = greater than 25%	
<b>Access to project area for suppression resources</b>	<b>1</b> = paved road <b>2</b> = improved dirt road <b>4</b> = unimproved two-track <b>5</b> = hike or aircraft	
<b>Response Time of Fire Suppression Resources for Initial Attack</b>	<b>1</b> = Less than 1 hour <b>3</b> = 1-2 hours <b>5</b> = greater than 2 hours	
<b>Average aspect of project site (GIS)</b>	<b>1</b> = N, NE <b>2</b> = NW, E <b>3</b> = W, SE <b>4</b> = S, SW, Flat	
<b>Road Distance to Available Water Sources</b>	<b>0</b> = <1 mile <b>3</b> = 1 to 3 miles <b>5</b> = >3 miles	
<b>Vegetation/Fuel Type/ Ignition Risk – On-Site</b>		
<b>Dominant fuel type in project area</b> (Fire Behavior Fuel Models based on USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153. 2005)	<b>0</b> = Irrigated pasture (NB3) <b>1</b> = Riparian wet meadow (GR3) <b>3</b> = Perennial Grass (GR1, GR2, GR4) <b>5</b> = Shrub (SH1, SH2) <b>7</b> = Grass/Shrub (GS1, GS2) <b>8</b> = Heavy Shrub/Grass (SH5, SH7) <b>10</b> = Pinyon/Juniper (TU1, TU4, TU5)	
<b>Dominant fuel type adjacent to the project area</b> (w/in 1 mile)	<b>0</b> = Irrigated (NB3) / Riparian (GR3) <b>1</b> = Perennial Grass (GR1, GR2, GR4) <b>5</b> = Shrub (SH1, SH2) <b>7</b> = Shrub/Grass (GS1, GS2) <b>8</b> = Heavy Shrub/Grass (SH5, SH7) <b>10</b> = Pinyon/Juniper (TU1, TU4, TU5)	
<b>Invasive Annual Grass Cover</b> (Based on HQT data)	<b>0</b> = 0% <b>5</b> = 1-5% <b>10</b> = >5	
<b>Vegetation Condition Class VCC</b> (departure from historic conditions) LANDFIRE Map	<b>1</b> = Low <b>2</b> = Moderate <b>3</b> = High	
<b>TOTAL:</b>		
<b>WILDFIRE RATING (circle one)</b>	<b>High</b> < 21; <b>Moderate</b> = 21-35; <b>Low</b> = >35	

**Dominant fuel type adjacent to the project area** [https://www.fs.fed.us/rm/pubs/rmrs\\_gtr153](https://www.fs.fed.us/rm/pubs/rmrs_gtr153)

**1. Nearly pure grass and/or forb type (Grass)**

- a. Arid to semiarid climate (rainfall deficient in summer).
  - i. GR1 Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.
  - ii. GR2 Moderately coarse continuous grass, average depth about 1 foot. Spread rate high; flame length moderate.
  - iii. GR4 Moderately coarse continuous grass, average depth about 2 feet. Spread rate very high; flame length high.
- b. Subhumid to humid climate (water adequate in all seasons; riparian areas).
  - i. GR1 Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.
  - ii. GR3 Very coarse grass, average depth about 2 feet. Spread rate high; flame length moderate.

**2. Mixture of grass and shrub, up to about 50 percent shrub coverage (GrassShrub)**

- a. Arid to semiarid climate (rainfall deficient in summer).
  - i. GS1 Shrubs are about 1 foot high, low grass load. Spread rate moderate; flame length low.
  - ii. GS2 Shrubs are 1 to 3 feet high, moderate grass load. Spread rate high; flame length moderate.

**3. Shrubs cover at least 50 percent of the site; grass sparse to nonexistent (Shrub)**

- a. Arid to semiarid climate (rainfall deficient in summer).
  - i. SH1 Low shrub fuel load, fuelbed depth about 1 foot; some grass may be present. Spread rate very low; flame length very low.
  - ii. SH2 Moderate fuel load (higher than SH1), depth about 1 foot, no grass fuel present. Spread rate low; flame length low.
  - iii. SH5 Heavy shrub load, depth 4 to 6 feet. Spread rate very high; flame length very high.
  - iv. SH7 Very heavy shrub load, depth 4 to 6 feet. Spread rate lower than SH5, but flame length similar. Spread rate high; flame length very high.

**4. Grass or shrubs mixed with litter from forest canopy (Timber-Understory)**

- a. Semiarid to subhumid climate.
  - i. TU1 Fuelbed is low load of grass and/or shrub with litter. Spread rate low; flame length low.
  - ii. TU4 Fuelbed is short conifer trees with grass or moss understory. Spread rate moderate; flame length moderate.
  - iii. TU5 Fuelbed is high load conifer litter with shrub understory. Spread rate moderate; flame length moderate.

**7. Insufficient wildland fuel to carry wildland fire under any condition (Nonburnable)**

- c. NB3 Agricultural field, maintained in nonburnable condition.
- e. NB9 Bare ground.

**Vegetation Condition Class** <http://landfire.cr.usgs.gov/viewer/viewer.html>

If multiple categories exist across the map unit, list the weighted average of the conditions.

Click the Globe -> View Data or Download Data (as ArcGrid)

LF(Latest Year) -> Fire Regime -> Vegetation Condition Class

Condition Category	Vegetation Condition Class
VCC Ia: Very Low, VDEP 0 - 16	VCC I: Low departure, VDEP 0 - 33
VCC Ib: Low, VDEP 17 - 33	
VCC IIa: Moderate to Low, VDEP 34 - 50	VCC II: Moderate departure, VDEP 34 - 66
VCC IIb: Moderate to High, VDEP 51 - 66	
VCC IIIa: High, VDEP 67 - 83	VCC III: High departure, VDEP 67 - 100
VCC IIIb: Very High, VDEP 84 - 100	

**Project site:**

**Date:**

**Transect ID:**

**Bearing:**

**NEVADA CONSERVATION CREDIT SYSTEM HABITAT QUANTIFICATION TOOL**

**Site-Scale (4th Order) Attribute Measurements**

Site Name:			
Date:	Observers:	Start time:	End time:
Transect name:	Transect UTM E:	Transect UTM N:	
Transect Sample Bearing:	GIS/Camera / Photo #'s:		
Is transect located within what would generally be called a meadow? Yes No			
What sagebrush species is the transect dominated by? Big Low/Black N/A			

**DISTANCE TO SUITABLE SAGEBRUSH COVER (10% PER 30M X 30M AREA)**

Distance from 30m mark (m): \_\_\_\_\_ \*if transect within suitable cover, distance = 0

**LINE INTERCEPT (SHRUB COVER)**

Low/Big Sagebrush/ Other	Start (m)	Stop (m)	Sagebrush Height (cm)	Low/Big Sagebrush/ Other	Start (m)	Stop (m)	Sagebrush Height (cm)

Shrub species encountered along transect:	Notes for Line Intercept:
---	---------------------------

**DAUBENMIRE PLOTS (HERBACEOUS COVER)**

Percent cover using the following coverage classes: 0 = 0%, 1 = >0-5%, 2 = 6-25%, 3 = 26-50%, 4 = 51-75%, 5 = 76-95%, 6 = >96%

PF = Perennial Forbs; PG = Perennial Graminoids; IAG = Invasive Annual Grasses  
(State Listed Noxious Weeds are not Counted)

Plot #	Functional Group	Cover Class
1	PF	
	PG	
	IAG	

Plot #	Functional Group	Cover Class
4	PF	
	PG	
	IAG	

Plot #	Functional Group	Cover Class
2	PF	
	PG	
	IAG	

Plot #	Functional Group	Cover Class
5	PF	
	PG	
	IAG	

Plot #	Functional Group	Cover Class
3	PF	
	PG	
	IAG	

**UNIQUE PERENNIAL & ANNUAL FORBS IN DAUBENMIRE FRAMES:**

List all unique forb species rooted in all Daubenmire plots within this transect:

Total Count: \_\_\_\_\_

(State Listed Noxious Weeds are not Counted)

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**ALL SPECIES LIST:**

<p>Graminoid and other Forb species encountered on plot:</p>	<p>All invasive and noxious (*) weeds encountered on plot and a rough cover estimate of each:</p>	<p>Notes for Daubenmire plots:</p>
--	---	------------------------------------