

**2006 Evaluation of Mormon Basin Allotment (#01318)  
Relative to Rangeland Health Standards**

I. Areas Evaluated

The Mormon Basin Allotment (#01318) with a management category (I) is located 10 miles west/southwest of Durkee, Oregon (see Map), and it is within the Pedro Mountain Geographic Unit as described in the Baker Resource Management Plan/Record of Decision dated July 1989. An over view of the public land indicates some minor concerns with overall plant vigor, but not with plant composition. Two of the pastures are planted with crested wheatgrass. The Mormon Basin allotment consists of approximately 9,245 acres of public land and 2,825 acres of private land based on gis data information and these acres are split into four pastures and is consider a higher priority allotment.

<u>Pastures</u>	<u>Acres</u>	<u>Predominant Elevations (feet)</u>
East Seeding	1650	3200-5600
West Seeding	1370	3600-5400
Dixie Creek	3575	4200-5800
Mormon Basin	<u>2650</u>	4000-5600
Total	9,245	

The standard period of grazing use in the Mormon Basin allotment is June 1 to September 13, with elevation and weather limiting when the pastures can be grazed. The grazing permit is considered a deferred grazing system in the Mormon Basin allotment. The cattle begin grazing in June at the lowest elevation pastures; either the East Seeding pasture or the West Seeding pasture. Both these pastures are crested wheatgrass and are flip/flopped every other year. Same grazing schedule is true for Dixie creek pasture and Mormon basin pasture. These pastures are used after the seeding pastures are grazed. There has also been some reduction in livestock numbers in the past several years and a slight reduction in time. The old and new grazing schedule can be seen below. There is three permittees with an all cow/calf operations.

Current permitted AUMs:

	<u>BLM</u>	<u>E/U</u>	<u>TOTAL</u>		
Permittee #1	740	24	764		
Permittee #2	144		144		
Permittee #3	52		52		
MORMON BASIN	#03018	235c	6/01-9/01	740	AUMs Active
MORMON BASIN	#03018	30c	7/01-7/25	24	AUMs Exch/Use
MORMON BASIN	#03018	45c	6/01-9/01	144	AUMs Active
MORMON BASIN	#03018	16c	6/01-9/01	52	AUMs Active

Previous permitted AUMs:

MORMON BASIN	#03018	250c	6/01-9/13	863	AUMs Active
MORMON BASIN	#03018	48c	6/01-9/13	166	AUMs Exch/Use
MORMON BASIN	#03018	63c	6/01-9/13	218	AUMs Active
MORMON BASIN	#03018	16c	6/01-9/13	55	AUMs Active

Adjustments in aum's were based on utilization levels and monitoring on key areas where the livestock actually graze according to the terrain, increase in shrub species and addressing heavy use on riparian areas to try and determine the correct carrying capacity of livestock to meet utilization levels. Utilization levels are set at (60%) in crested wheatgrass seedings, (50%) on native plant key areas, which in most cases are the riparian areas.

Grazing system is a deferred rotation on a two year cycle.

**YEARS** 2005, 2007, 2009, 2011

**TURNOUT DATE & PASTURE MOVE DATES**

PASTURES	6/01-6/24	6/24-7/17	7/17-8/09	8/09-9/01	LIVESTOCK #	Aums
EAST SEEDING	//////////				296	234
WEST SEEDING		//////////			296	234
MORMON BASIN			//////////		296	234
DIXIE CREEK				//////////	296	234
	24 Days	24 Days	24 Days	24 Days		

**YEARS** 2006, 2008, 2010, 2012

**TURNOUT DATE & PASTURE MOVE DATES**

PASTURES	6/01-6/24	6/24-7/17	7/17-8/09	8/09-9/01	LIVESTOCK #	Aums
WEST SEEDING	//////////				296	234
EAST SEEDING		//////////			296	234
DIXIE CREEK			//////////		296	234
MORMON BASIN				//////////	296	234
	24 Days	24 Days	24 Days	24 Days		

////////// = GRAZING PERIOD

## II. Data and Information Used in the Evaluation

### A. Trend Plots

Data from the trend plots is summarized in Trend Data Table: Trend Data:

1. East Seeding Pasture  
Trend Plot 01318-3, 5, 7 has a 3 x 3 photo plot and 5&7 have a pace frequency transect.
2. West Seeding Pasture  
Trend Plot 01318-8, 9, has a 3 x 3 photo plot and 8&9 have a pace frequency transect.
3. Dixie Creek Pasture  
Trend Plot 01318-2 has a 3 x 3 photo plot and 2 has a pace frequency transect.
4. Mormon Basin Pasture  
Trend Plot 01318-1 has a 3 x 3 photo plot and 5 has a pace frequency transect.

### B. Rangeland Health Assessments

Appendix 3 summarizes the results of the rangeland health assessments completed in 2006. Multidisciplinary teams viewed 4 sites on the allotment, one in each pasture, assessing 4 rangeland health indicators at each site in accordance with Technical Reference 1734-6, Interpreting Indicators of Rangeland Health, 2000 (Version 3).

### C. Native Plant Communities Ratings

These were the habitat ratings for Standard 5 that were done with each rangeland health assessment.

### D. Proper Functioning Condition Assessments

Appendix 4 summarizes the results of the PFC assessments completed in 2006, in accordance with Technical Reference 1737-9, Process for Assessing Proper Functioning Condition, 1993.

### III. List of Standards Evaluated

The standards evaluated are those presented in detail on pages 15-18 of the final version of “The Standards for Rangeland Health and Guidelines for Livestock Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington” (August 12, 1997).

These standards are:

#### **Standard 1 - Upland Watershed Function**

Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

#### **Standard 2 - Riparian/Wetland Watershed Function**

Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.

#### **Standard 3 - Ecological Processes**

Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.

#### **Standard 4 - Water Quality**

Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.

#### **Standard 5 – Native, T & E, and Locally Important Species**

Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soil, climate, and landform.

### IV. Indicators Used to Evaluate Status of the Standards

#### A. Trend Plots

Indicators at trend plots include plant cover, litter cover, bare soil, frequency of key species, cover of key species, and percent composition of key species.

#### B. Rangeland Health Assessment Forms.

#### C. Native Plant Communities Ratings (Habitat Ratings for Standard 5) Form.

#### D. Proper Functioning Condition Assessment Forms.

#### E. Utilization history.

## V. Conclusions

### A. East Seeding Pasture

#### **Standard 1 - watershed function, uplands:**

The trend plot's in this pasture overall indicates an upward trend, and where slight decreases in crested wheatgrass is due to other resource issues. One noticeable factor is the increase in the number and size of juniper trees in the upland areas, along with the shrub component (sage brush and rabbit brush). Noxious weeds are Knapweed, Leafy spurge and yellowstar thistle.

Rangeland health indicators for upland watershed soil /site stability and hydrologic function were assessed at one location in this pasture. Indicators at the one site were rated at none-to-slight departure from a crested wheatgrass seeding ecological site description. This pasture is located in Malheur County and has no soil survey with existing conditions or plant potential. The pasture currently **meets** the standard for a seeded pasture.

#### **Standard 2 - watershed function, riparian:**

Riparian areas consist of Basin Creek (3.3 mi) and Discovery Gulch (2.1 miles of intermittent stream) and several side drainages that were identified as intermittent. The total stream mileage assessed in this pasture is 4.2 miles and assessment documentation can be found on appendix 4. The percentage is 20% is at PFC, 19% is Functioning at Risk (Upward Trend), 39% is Functioning at Risk (Downward Trend) and 22% is Functioning at Risk (Not Apparent Trend). Most riparian species are present in most areas. Livestock are still using the riparian area in Discovery Gulch just above the exclosure above the 50% utilization level identified for this allotment. There is a water trough located in the riparian area. This standard is therefore **being met in most of the riparian areas assessed**.

#### **Standard 3 - ecological processes**

Photographs at the trend plot show that sagebrush and juniper cover shows a moderate increase since the pasture was seeded to crested wheatgrass, which altered the original ecological site of (bluebunch wheatgrass/Idaho fescue). Forbs in these areas are also present in quantities similar to the native site descriptions.

Rangeland health indicators for biotic integrity were assessed at one location in this pasture. One was rated at none-to-slight departure from the crested wheatgrass ecological site description; there are several small sites with cheat grass or bulbous bluegrass as a dominant species. These sites are generally around water or in the areas where they salt the livestock.

**Standard 3 is being met.** The area was seeded to allow more livestock grazing in this pasture and reduce grazing in the two native pastures.

**Standard 4 - water quality:**

All waters are tributaries of Willow Creek drainage. Lab data collected indicates everything else is near normal. This pasture **does meet** this standard.

**Standard 5 - native, T&E, or locally important species**

There are no special status species or locally important species identified in this pasture. Some riparian areas lack woody vegetation at stream side, but trend is up. Shrub and juniper cover meets or exceeds desired conditions, most herbaceous species are present in the under story. This pasture **does meet** this standard.

B. West Seeding Pasture

**Standard 1 - watershed function, uplands:**

The trend plot's in this pasture overall indicates static conditions, with some areas slightly upward for a crested wheatgrass seeding. The north upland area is in good condition. Livestock numbers and grazing time has been reduced to allow for improvements in plant vigor. One noticeable factor is the increase in the number and size of juniper trees in the upland areas, along with the shrub component. The sagebrush canopy is continuing to increase and is reducing the production of the crested wheatgrass under this canopy.

Rangeland health indicators for upland watershed soil /site stability and hydrologic function were assessed at one location in this pasture. Indicators at the one site was rated at none-to-slight departure from the ecological site description This pasture is located in Malheur County and has no soil survey with existing conditions or plant potential. The pasture currently **does meet** the standard for a seeding

**Standard 2 - watershed function, riparian:**

Riparian areas consist of several spring areas and several ephemeral side drainages. Livestock are still using some of these riparian areas, especially around the spring developments. This standard is not applicable in this pasture at the present time.

**Standard 3 - ecological processes**

Photographs at the trend plot show that sagebrush and juniper cover shows a moderate increase since the pasture was seeded to crested wheatgrass, which altered the original ecological site of (bluebunch wheatgrass/Idaho fescue). Forbs in these areas are also present in quantities similar to the native site descriptions.

Rangeland health indicators for biotic integrity were assessed at one location in this pasture. One was rated at none-to-slight departure from the crested wheatgrass ecological site description; there are several small sites with cheat grass or bulbous bluegrass as a dominant species. These sites are generally around water or in the areas where they salt the livestock.

**Standard 3 is being met.** The area was seeded to allow more livestock grazing in this pasture and reduce grazing in the two native pastures.

**Standard 4 - water quality:**

This pasture is not applicable to this standard.

**Standard 5 - native, T&E, or locally important species:**

There are no special status species or locally important species identified in this pasture. Some riparian areas lack woody vegetation at stream side, but trend is up. Shrub and juniper cover meets or exceeds desired conditions, most herbaceous species are present in the under story. This pasture **does meet** this standard.

#### C. Dixie Creek Pasture

**Standard 1 - watershed function, uplands:**

The trend plot's in this pasture overall indicates an upward trend, and where slight decreases in key species occurs is due to other resource issues. One noticeable factor is the increase in the number and size of juniper trees in the upland areas, along with the shrub component. The woodland sites appear to be in fair to good condition.

Rangeland health indicators for upland watershed soil /site stability and hydrologic function were assessed at one location in this pasture. Indicators at the one site were rated at none-to-slight departure from the ecological site description. The pasture currently **meets** the standard, but continued monitoring of trend, focusing on plant species composition and plant vigor, is essential to ensure that the standard continues to be met. Other resources treatments need to be completed to enhance rangeland health.

**Standard 2 - watershed function, riparian:**

Riparian areas consist of California Gulch (1.1 mi), Robinson Gulch (.2mi), South Fork Dixie Creek (5.3 mi), Thorton Gulch (.23 mi) and Wagner Gulch (.58 mi) and several ephemeral side drainages. The total stream mileage assessed in this pasture is 6.55 miles and assessment documentation can be found on appendix 4. The percentage is 15% is PFC and 45% which is Functioning at Risk with a (Upward Trend) and 40% which is Functioning at Risk with a not apparent trend. Most riparian species are present at some level. This standard is therefore **being met**.

**Standard 3 - *ecological processes***

Photographs at the trend plot show that shrubs and juniper cover have increased since the 1980's and are above the original ecological sites. Forbs in these areas are also present in quantities similar to the native site descriptions. The native blue bunch wheatgrass and Idaho fescue are dominant in the ecological processes for the upland sites and pine grass and elk sedge are dominant in the ecological processes for the woodland sites.

Rangeland health indicators for biotic integrity were assessed at one location in this pasture. One was rated at none-to-slight departure from the ecological site descriptions; there are several small sites with cheat grass or bulbous bluegrass as a dominant species. These sites are generally around water or in the saddles where they salt the livestock.

The full complement of native grasses and forb species are present and plant vigor is good to excellent at most sites. Knapweed and Leafy spurge is the only noxious weed species present at this time and is present in this pasture in scattered spots, but they do not dominate any significant areas yet. Some sites have been sprayed by the BLM.

**Standard 3 is being met.** The full complement of native grass and forb species are present and in the quantity acceptable to meet the DFRC (desired future range condition) but livestock are not as much of a problem in the upland areas.

**Standard 4 - *water quality*:**

All waters are tributaries of the Burnt River, which is on the Oregon 303(d) list. Lab data collected indicates everything else is near normal. This pasture **does meet** this standard.

**Standard 5 - *native, T&E, or locally important species*:**

There are no special status species or locally important species identified in this pasture. Native plant communities overall are in good condition, some riparian areas show over utilization, but all species are present, but in low vigor and trend is static or downward. Shrub and juniper cover meets or exceeds desired conditions, most herbaceous species are present in the under story. This pasture **does meet** this standard.

#### D. Mormon Basin Pasture

##### **Standard 1 - watershed function, uplands:**

The trend plot's in this pasture overall indicates an upward trend, and where slight decreases in key species occurs is due to other resource issues. One noticeable factor is the increase in the number and size of juniper trees in the upland areas, along with the shrub component. The woodland canopy appears to be in good condition.

Rangeland health indicators for upland watershed soil /site stability and hydrologic function were assessed at one location in this pasture. Indicators at one site were rated at none-to-slight departure from the ecological site description. The pasture currently **meets** the standard, but continued monitoring of trend, focusing on plant species composition and plant vigor, is essential to ensure that the standard continues to be met.

##### **Standard 2 - watershed function, riparian:**

Riparian areas consist of Basin Creek (3.5 mi), California Gulch (1.1 mi), Emigrant Gulch (2.1 mi), French Gulch (.25 mi), Puget Sound Gulch (.59 mi) and several ephemeral side drainages. The total stream mileage assessed in this pasture is 7.0 miles and assessment documentation can be found on appendix 4. The percentage is 25% is at PFC, 57% is Functioning at Risk (Upward Trend), 7% is Functioning at Risk (Downward Trend) and 11% Functioning at Risk (Not Apparent Trend), most of this reach has had heavy mining in the past. Most riparian species are present at some level. Livestock are still using riparian areas at the utilization levels identified for this allotment. This standard is therefore **being met** along Cottonwood Creek, Pine Creek and most of Clarks Creek.

##### **Standard 3 - ecological processes**

Photographs at the trend plot show that shrubs and juniper cover has increased since the 1980's, both are present in large quantities comparable to the original ecological sites. Forbs in these areas are also present in quantities similar to the native site descriptions. The native blue bunch wheatgrass and Idaho fescue are dominant in the ecological processes for the upland sites and pine grass and elk sedge are dominant in the ecological processes for the woodland sites.

Rangeland health indicators for biotic integrity were assessed at one location in this pasture. One was rated at none-to-slight departure from the ecological site descriptions; there are several small sites with some cheat grass or bulbous bluegrass as a more dominant species. These sites are generally around water or in the areas where they salt the livestock.

The full complement of native grasses and forb species are present and plant vigor is good to excellent at most sites. Knapweed and Leafy spurge is noxious weed species present in this pasture in scattered spots, but they do not dominate any significant areas yet. Some sites have been sprayed by the BLM.

**Standard 3 is being met.** The full complement of native grass and forb species are present and in the quantity acceptable to meet the DFRC (desired future range condition) but livestock are not as much of a problem in the upland areas.

**Standard 4 - *water quality:***

All waters are tributaries of the Burnt River, which is on the Oregon 303(d) list. This pasture **does meet** this standard.

**Standard 5 - *native, T&E, or locally important species:***

There are no special status species or locally important species identified in this pasture. Native plant communities overall are in good condition, some riparian areas lack woody vegetation at stream side, but trend is up. Shrub and juniper cover meets or exceeds desired conditions, most herbaceous species are present in the under story. This pasture **does meet** this standard.