

**RANGELAND HEALTH ASSESSMENT**  
**CRACK IN THE GROUND ALLOTMENT # 10102**

Standards for Rangeland Health and Guidelines for Livestock Grazing Management  
In the states of Oregon and Washington.  
August 12, 1997

## **CRACK IN THE GROUND ALLOTMENT (# 10102) OVERVIEW**

**Permittee:** Jack and Katherine Gillette

**Public Acres:** 15,419      **Other Acres:** 400

**Category:** I

**AUMs of Authorized Use:** 298 AUMs

**Season of Use:** 5/1-9/15

**Grazing system:** Rest Rotation

**7.5 Minute Topographic Map:** Crack in the Ground, Christmas Lake, Lava Lake, Hogback Butte, Jack's Place, Christmas Valley, Fandango Canyon.

**Locations:** See Attached Map

**Special Status Species:** The allotment provides habitat for raptors, some BLM and state sensitive wildlife species, and federally listed species. There are also three species with high public interest. These are mule deer, elk, and pronghorn antelope.

Two BLM Special Status plant Species are found within this allotment. These are *Cymopterus nivalis* (snowline cymopterus) and *Eriogonum cusickii* (Cusick's buckwheat).

**ESI Data and Vegetation Summaries:** See Attached Table (Appendix A)

**Other:** Four Craters WSA occurs within the allotment.

**Vegetation:** The vegetation within the Crack in the Ground Allotment includes big basin sagebrush, blue bunch wheatgrass, needleandthread, Thurber's needlegrass, saltgrass, rabbitbrush, juniper, greasewood, and cheatgrass.

## TABLE OF CONTENTS

- I. BACKGROUND AND GENERAL ALLOTMENT INFORMATION
- II. STANDARDS FOR RANGELAND HEALTH
  - Standard 1 – Watershed Function – Uplands
  - Standard 2 – Watershed Function – Riparian/Wetland Areas
  - Standard 3 – Ecological Processes
  - Standard 4 – Water Quality
  - Standard 5 – Native, Threatened & Endangered (T&E), Locally Important Species
- III. GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT
- IV. TEAM PARTICIPANTS AND TITLE
- V. DETERMINATION

## CRACK IN THE GROUND ALLOTMENT # 10102

### I. BACKGROUND AND GENERAL ALLOTMENT INFORMATION

The Crack in the Ground Allotment is located 2 miles north of Christmas Valley, Oregon (See Map 1). There is one grazing permit within this allotment, held by Jack and Katherine Gillette.

This allotment contains 15,419 acres of Bureau of Land Management (BLM) administered land and 400 acres of private land. These are encompassed in four pastures (See Map 2).

The vegetation within the Crack in the Ground Allotment includes big basin sagebrush, blue bunch wheatgrass, needleandthread, Thurber's needlegrass, squirrletail, saltgrass, rabbitbrush, juniper, greasewood, and cheatgrass (See Map 3).

Two BLM Special Status plant Species are found within this allotment. These are *Cymopterus nivalis* (snowline cymopterus) and *Eriogonum cuscikii* (Cusick's buckwheat).

The Crack in the Ground Allotment supports a diversity of wildlife species. The allotment provides habitat for raptors, some BLM and state sensitive wildlife species, and federally listed species. There are also three species with high public interest. These are mule deer, elk, and pronghorn antelope.

There has been no Evaluation or Allotment Management Plan completed for the Crack in the Ground Allotment to date.

The Four Craters WSA occurs along the east side of the Crack in the Ground Road (county road # 610-9, and west of county road # 5-14C).

There are no perennial or intermittent streams within this allotment; however, there are 97 acres of palustrine and 2,095 acres of lacustrine wetlands found in the allotment.

The Crack in the Ground Allotment consists of four pastures including West Crack, East Crack, Langdon Springs, and Shull Well Pastures. In general, each pasture is grazed every other year (graze/rest). The West Crack and Shull Well Pastures are usually grazed while the East Crack and Langdon Springs Pastures are rested. The following year, the East Crack and Langdon Springs Pastures are grazed while the West Crack and Shull Well Pasture are rested. This graze rest grazing management rotation allows plants to complete their life cycles one out of two years, perpetuating the perennial grass species in the allotment. The active AUMs are in the following table (1).

Table 1: Permitted Use

<i>Permittee</i>	<i>Active Permitted Use</i>	<i>Suspended Use</i>	<i>Total Use</i>	<i>Season of Use</i>
Jack & Katherine Gillette	289	0	289	5/1-9/15

## Monitoring

The utilization standard of 50% (defined in the Lakeview Resource Management Plan [RMP] and Record of Decision [ROD], Appendix E3: page A-142) has been exceeded in the Crack in the Ground Allotment six times (includes all four pasture), within the last 21 years. Exceeded utilization did not occur in the same pasture all six times, and did not occur consecutively. Utilization levels above the utilization standard did not appear to affect the trend at the tree long-term trend plots.

There are three long-term trend monitoring plots located within the Crack in the Ground Allotment. These are located in the West (CG-1), Langdon Springs (CG-2), and East (CG-3) Pastures. The trend plot located in the Langdon Springs Pasture is a photo site only. The trend plots in the East and West Pastures consists of a frequency transect as well as photos.

### *CG-1*

Trend plot CG-1 was established in 1987 in the West Pasture of the Crack in the Ground Allotment. This trend plot consists of photos (3x3 and landscape), and a nested frequency transect. The first time this trend plot was read was 1987. The plot was re-read in 1992, 1997, 2003, and 2007.

Trend plot CG-1 photo data show a stable trend with slight increase in shrub cover between 1987 and 2007. Trend data for 2007 shows a decrease in bareground from 2003. Percent litter cover was down in 1997 from 1992 and 1987, but is stable since 2003 and up since 1997. Percent vegetative cover has increased in 2007 as compared to 2003, and is down from 1997 (and up from 1982 and 1987). Photo analysis and trend data indicate a static trend at this trend plot.

There is no major change in photographs between 1987 and 2007. The overall apparent trend at this range site is static. The Crack in the Ground Allotment has been provided with adequate growing season rest, which has perpetuated the grass species within the allotment and helped achieve a static trend.

### *CG-2*

Photo trend plot CG-2 (located in the Langdon Springs Pasture) was established in 1987 in a greasewood/saltgrass vegetation type. The original photos were taken in 1987, and retaken in 1992, 1997, 2004, and 2007.

There has not been a visual change in the vegetation at this photo trend site since 1992. The overall apparent trend at this range site is static. The Crack in the Ground Allotment has been provided with adequate growing season rest, which has perpetuated the grass species within the allotment and helped achieve a static trend.

### *CG-3*

Trend plot CG-3 was established in 1987 in the East Pasture of the Crack in the Ground Allotment. This trend plot consists of photos (3x3 and landscape), and a nested frequency transect. The first time this trend plot was read was 1987. The plot was re-read in 1992, 1997, 2003, and 2007.

Percent cover of bareground at trend plot CG-3 decreased significantly in 2007 as compared to 2003. Percent cover of litter increased in 2007 as well as percent cover of crusts as compared to 2003. Percent frequency of nearly all plant species are up from 2003. Photo analysis indicates a fairly stable trend when comparing year to year; however, the 2007 photographs show an upward trend when compared to the 1987 photographs. A number of phlox, rabbitbrush, sagebrush and grass seedlings have become established (since 1987), as existing plants have increase in size since 1987. When comparing the 1987 photographs with the 2007 photos, the 2007 photographs show less bareground. Trend data also indicates that vegetative cover has increased since 1987. Photo and trend data analysis indicate an upward trend at this trend plot.

There is an increase of vegetative cover and a decrease of bareground photographs between 1987 and 2007. The overall apparent trend at this range site is upward. The Crack in the Ground Allotment has been provided with adequate growing season rest, which has perpetuated the grass species within the allotment, and helped achieve an upward trend.

## **II. STANDARDS FOR RANGELAND HEALTH**

### ***STANDARD 1 - Watershed Function -Uplands***

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

This standard has been achieved.

Indicators used to evaluate this standard are Soil Surface Factor (SSF) which documents erosion class and soil susceptibility to accelerated erosion; plant community composition, and existing vegetation monitoring (forage utilization and trend studies) which indicate plant and root health. Ecological Site Inventory (ESI) (used for estimation purposes only). Field surveys to determine ESI were done in 1997 and 2000. Please refer to the allotment specific table (Appendix A) and the ESI summary for full vegetative information including plant species, soil surface factor, observed apparent trend and ecological status.

SSF data is available on 43% of the area. The acreage without data represents vegetative areas too small to be mapped, transition zones between vegetative communities and soil types, and rock outcrops. The majority of the area (58%) has an SSF rating of moderate, 41% slight, and 1% stable. Overall SSF data indicates the soils in the assessment area are moderately susceptible to wind or water erosion.

There are three long-term trend monitoring plots located in the Crack in the Ground Allotment. Photo and trend data analysis indicated a static trend at two trend plots and an upward trend at the third trend plot (as discussed under the monitoring section above). The Crack in the Ground Allotment is being provided with adequate growing season rest under the rest rotation grazing system. This rest rotation grazing system allows plants to complete their life cycles one out of two years, perpetuating the perennial grass species in the allotment. Adequate growing season rest allows the grass species to develop a healthy root system which holds the soil and protects against erosion. Healthy root systems improve the sites ability to store and retain moisture. The two long-term trend monitoring plots with quantitative data have a high litter cover percentages. Litter protects the soil surface from raindrop compaction. It is because of these reasons that this standard has been achieved.

### **STANDARD 2 – Watershed Function - Riparian/Wetland Areas**

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

This standard has been achieved.

Standard two is being met for Riparian/Wetland function. There are 97 acres of palustrine and 2,095 acres of lacustrine wetlands found in the allotment. All 2,192 acres are in proper functioning condition. Livestock grazing does not appear to be a factor limiting Riparian/Wetland function.

### **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.*

This standard has been achieved.

Indicators used to evaluate this standard include animal populations, trend studies, vegetative composition, presence of weed species, botanical reports, ecological status, Observed Apparent Trend (OAT), Seral Stage and PNC from the Lake County ESI survey (which is preliminary at this time). Field surveys for ESI were completed in 1997 through 2000. Data is used in this assessment for estimation purposes only. Please refer to Appendix A for a summary of the ESI data.

The ESI survey compares the current plant composition to a defined Potential Natural Community (PNC) for the identified soil type and precipitation zone. The 1997-2000 ESI data indicates that 22% of the native plant communities are in Late Seral, 62% are in Mid Seral, 9% are in early seral, and 7% are in PNC.

Observed Apparent Trend is a one time trend for the area determined in the 1997-2000 ESI survey. Totals for the surveyed acreage, show 10% had an OAT indicating upward trend, 54% had a Static trend and less than 36% had a downward trend.

Trend Plots within the Crack in the Ground Allotment show good diversity of community structure including grasses, forbs, and shrubs. Diversity ensures that the capture and storage of energy occurs throughout most of the season consistent with the capabilities of the site. Nutrient cycling is evidenced by litter accumulation and overall plant productivity. Plants are allowed to cycle with grazing management that provides for periodic rest. Therefore this standard is being met.

### Fauna

Standard three is being met for animal populations. The allotment is supporting the current and proposed number of mule deer and pronghorn antelope identified by Oregon Department of Fish and Wildlife (ODFW) management plans.

### Flora

This standard has been achieved for plant communities. The plant communities in this allotment are in functioning condition with a good diversity of plants. There is a high diversity of grasses and forbs; even though part of the area was used for firewood cutting in the past.

### Weeds

This standard is being achieved for weeds in the Crack in the Ground Allotment. Medusahead rye is suspected to occur in one location in the Shull Well Pasture (but is not affecting the achievement of this standard). Noxious weeds are not known to occur in the rest of the allotment; however, dalmation toadflax and spotted knapweed are present in the nearby town of Christmas Valley. The close proximity of this allotment to the town of Christmas Valley and the associated well traveled roads presents the likelihood that these weed species will spread along the roads bounding and within the allotment in the future. The Crack in the Ground and the Green Mountain Campground and Lookout recreation sites and the roads leading to them are under annual surveillance because of this likelihood. The Shull Well Pasture will be inventoried and the presence of medusahead confirmed or dismissed. In the event that noxious weeds are discovered anywhere in the allotment, they will be treated in accordance with the methods and management direction described in the Lakeview RMP/ROD (2003), Lakeview Resource Area's Noxious Weed Management Program Environmental Assessment (EA No. OR-010-2004-03) and decision record (2004), and the Record of Decision for the Vegetation Treatments Using Herbicides Programmatic Environmental Impact Statement (2007).



#### **STANDARD 4 – Water Quality**

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

This standard is not applicable.

There are no perennial or major intermittent surface waters on BLM administered lands within the Crack in the Ground Allotment therefore the water quality standard is not applicable to the assessment area.

#### **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.*

This standard is being achieved

##### **Fauna**

Standard five is being met for native, T&E and locally important wildlife species. The mule deer and pronghorn populations are healthy and increasing in number within the allotment. Habitat quantity and quality do not appear to be limiting population size or health.

The allotment also provides habitat for numerous small and nongame birds and mammals common to the Great Basin, as well as, sage grouse. There are no known sage grouse leks found within the allotment, however, sage grouse have been seen using the allotment at different times of the year. Sage grouse populations like the rest of southeastern Oregon are stable to declining. The allotment also provides habitat for raptors and some BLM and state sensitive wildlife species and federally listed species. No critical habitat or limitations have been identified for any of these species which include wintering bald eagles, and possibly pygmy rabbits and various sensitive bat species. Livestock grazing does not appear to be limiting wildlife habitat within the allotment.

##### **Flora**

Two BLM Special Status plant Species are found in the same location in this Allotment. The population of *Eriogonum cuscikii* (Cusick's buckwheat) is one of six populations in Oregon. Cusick's buckwheat is listed as a Sensitive BLM plant which means it is imperiled because of rarity or because other factors demonstrably make it very vulnerable to extirpation. *Cymopterus nivalis* (snowline cymopterus) is also found at this location. This cymopterus while very prevalent in Montana is limited to nine locations in Oregon. It is listed as a Sensitive BLM plant.

In 06/24/1994, the Lakeview Resource Area BLM officially closed the only road that leads to this location in order to protect the Bureau sensitive rare plants. (Fed. Reg. Vol. 59, #121, page 31710). The plants grow on a unique weathered basaltic and lapilli tuft soil. There are very few palatable plants other than the buckwheat found growing on these sites;

consequently there appears to be little livestock grazing in the area. The main threat to this population is the trespass OHVs using the open area for driving off-road. This plant community is monitored every year to determine health of the plants. This standard has been met for Special Status plant Species.

### III. GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

The Crack in the Ground Allotment is being provided with adequate growing season rest (under the rest rotation grazing system) and is meeting the requirements of providing adequate cover for infiltration, moisture storage, and maintaining plant communities. Livestock grazing management in the Crack in the Ground Allotment is conforming to the guidelines of Livestock Grazing Management (August 12, 1997).

### IV. TEAM PARTICIPANTS AND TITLE

Jayna Ferrell	Rangeland Management Specialist
Vern Stofleth	Wildlife Biologist
Erin McConnell	Natural Resource Specialist (NRS), Weeds
Alan Munhall	Fisheries Biologist
Lucile Housley	Botanist
Theresa Romasko	Assistant Field Manager

### V. DETERMINATION

Existing grazing management practices or levels of grazing use on the Allotment promote achievement of significant progress towards the Oregon Standards and Guidelines for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

Existing grazing management practices or levels of grazing use on the Allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards and Guidelines for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

  
\_\_\_\_\_  
Field Manager, Lakeview Resource Area

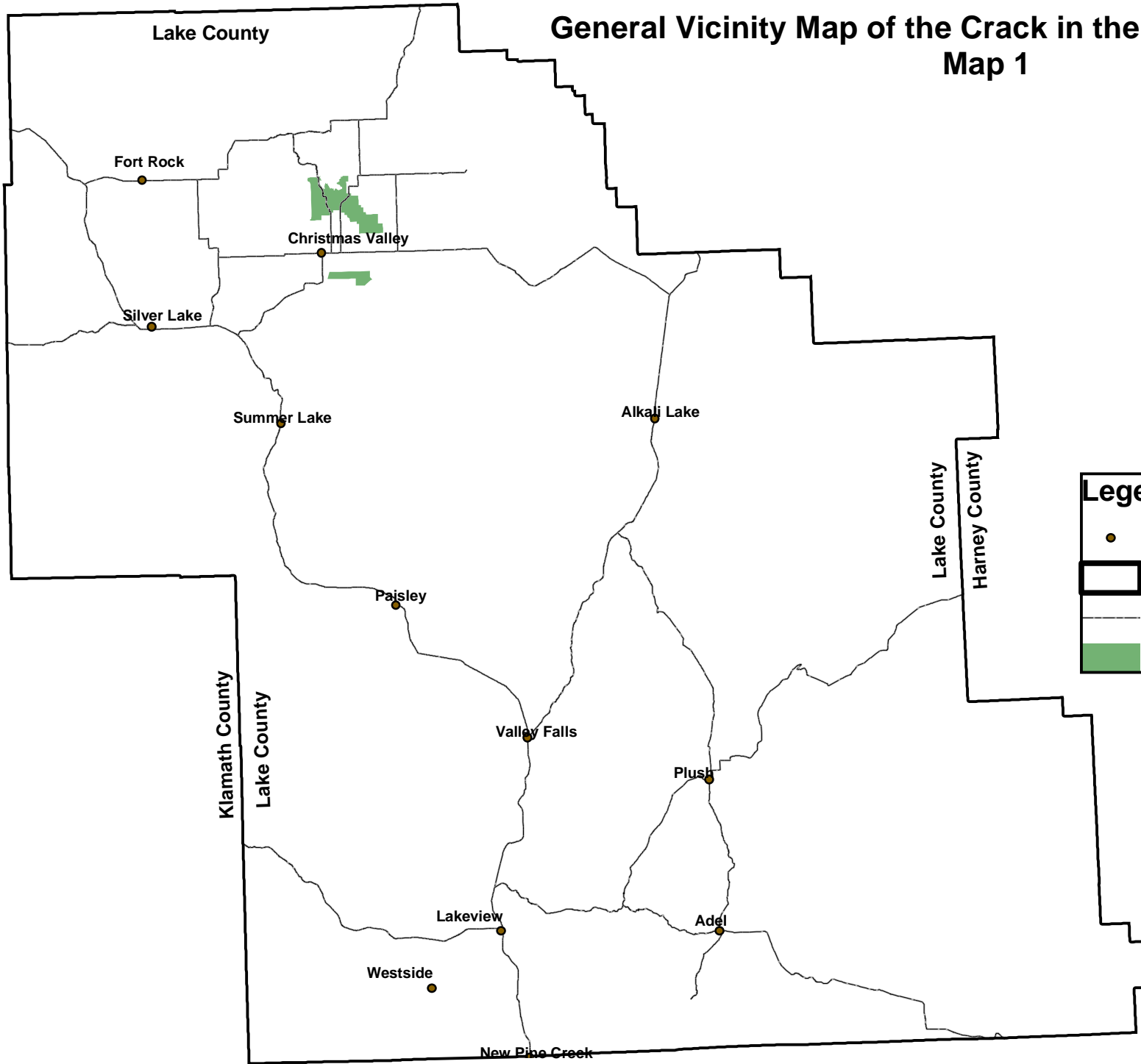
4/16/08  
\_\_\_\_\_  
Date

Summary of ESI Data – Crack in the Ground Allotment # 10102

Appendix A

Vegetation Community	Total Acres	% of total acres	SSF Acres					OAT Acres			Acres of Vegetative Community in Seral Stage			
			Stable	Slight	Moderate	Critical	Severe	Down	Static	Up	PNC	Late	Mid	Early
BRTE Cheatgrass	229	3.5			229			229						229
ARTRT/BRTE basin big sagebrush/cheatgrass	977	15		20	956			977					977	
ARTRT/ELEL5 basin big sagebrush/squirreltail	363	5.5			363			363					363	
ARTRT/LECI4 basin big sagebrush/basin wildrye	65	1			65			7		58		58	7	
ARTRT/POSE basin big sagebrush/Sanburg bluegrass	367	5.6		367				367					367	
ARTRT/PSSPS basin big sagebrush/Bluebunch wheatgrass	45	0.7		37	8			45				8	37	
RTRT/STOC4 Basin big sagebrush/snow lichen	40	0.6		40					40			40		
ARTRT/STTH2 Basin big sagebrush/Thurbers needlegrass	844	12.9			844				844				844	
ARTRV/STCO4 Mountain big sagebrush/Thurbers needlegrass	0.4				0.4				0.4			0.4		
ARTRW8/POSE4 Wyoming big sagebrush/field smart weed	185	2.8			185				185				185	
CHNA2/BRTE/DESCU Grey rabbitbrush/cheatgrass/tansymustard	367	5.6		367				367						367
CHVI8/BRTE Yellow rabbitbrush/cheatgrass	2	0.03		2				2						2
CHVI8/STCO4 Yellow rabbitbrush/Thurbers needlegrass	586	9		586						586			586	
JUCO/STTH2 Western juniper/Thurbers needlegrass	579	8.8			579				579				579	
JUCO/ARAR8/DANTH Western juniper/little sagebrush/oatgrass	13	0.2					13		13			13		
JUOC/ARTRT Western juniper/basin big sagebrush	53	0.8	53						53		53			
JUOC/ARTRT/BRTE Western juniper/basin big sagebrush/cheatgrass	133	2		95	38				133				133	
JUOC/ARTRV/FIED Western juniper/mountain big sagebrush/Idaho fescue	10	.2			10					10		10		
SAVE/DISPS2 Greasewood/saltgrass	1,592	24.07		1,188	404				1,592		404	1,188		
SAVE/LECI4 Greasewood/basin wildrye	112	1.7			112				112			112		
Total	6,562	11100	53	2702	3793.4		13	2357	3551	654	457	1429.4	4078	598

# General Vicinity Map of the Crack in the Ground Allotment Map 1

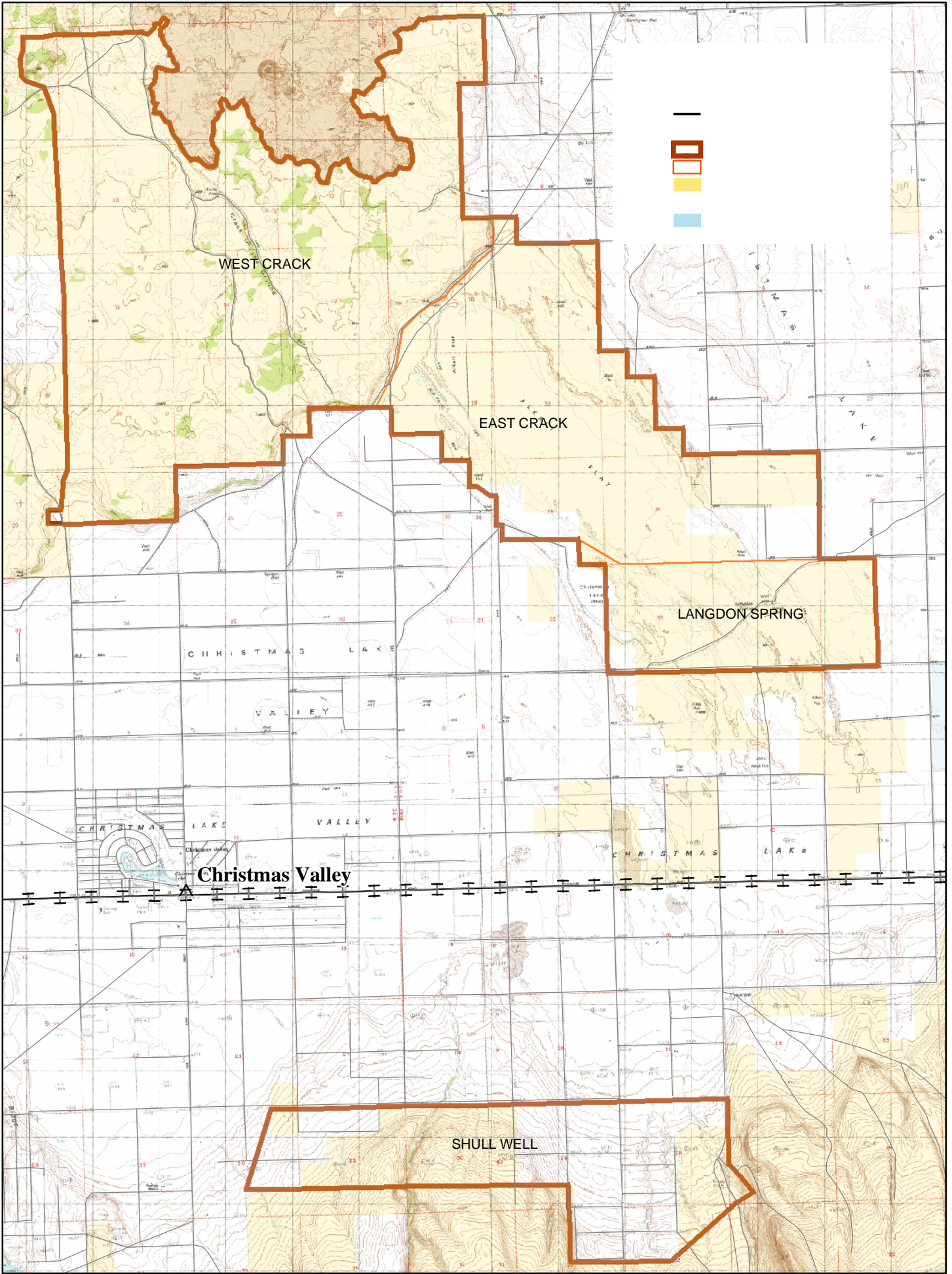


**Legend**

- Cities
- ▭ Lakeview Resource Area
- Major Roads
- Crack in the Ground Allotment



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



WEST CRACK

EAST CRACK

LANGDON SPRING

Christmas Valley

SHULL WELL



Ü

Christmas Valley

