United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Ridgecrest Field Office
300 S. Richmond Road
Ridgecrest, CA 93555
www.ca.blm.gov/ridgecrest

Rangeland Health Assessment and Determination:
Achievement of Rangeland Health Standards,
Contributing Factors and Appropriate Action Priorities for the
Kelso Peak Allotment

Indicate the date(s) or period the information covers: June 5, 2013 through March 28, 2014

Participants	Title
Sam Fitton	Natural Resource Specialist, Range
Jeff Gicklhorn	STEP Range Technician
Martha Dickes	Wilderness Coordinator
Shelly Ellis	Wildlife Biologist
Leah Madison	Conservation Land Management Intern
Marcus Lorusso	Conservation Land Management Intern

1. Identification of Area(s) and Related Information:

LOCATION: Allotment name/number: Kelso Peak Allotment #05002
Approximate size in acres: 2,718 Acres

TOWNSHIP+	RANGE	SECTION(S)
T28S	R35E	Sections: 5, 6, 8
T27S	R35E	Sections: 30, 31

+ *Township, Range, and Section referenced to the PLSS Mt. Diablo Meridian*

Assessment Site	Type of Assessment	UTMs*
Kelso Peak 1 (KP-1)	Upland	E:387611 N:3931818
Kelso Peak 2 (KP-2)	Upland	E:387555 N:3931258
Kelso Peak 3 (KP-3)	Upland	E:386069 N:3933889
Kelso Peak 4 (KP-4)	Upland	E:386365 N:3931528
Lower Cortez Creek (LCC)	Proper Functioning Condition: Lotic	E:386676 N:3431625
North Kelso Spring (NKS)	Proper Functioning Condition: Lotic	E:385303 N:3934956

* *UTM coordinates in NAD 83, UTM Zone 11S*

A. **Site:** The Kelso Peak (KP) grazing allotment is contained entirely within the Bright Star Wilderness Area. It consists of 2,718 acres, which includes 2,678 acres within the northern ¼ of the Bright Star Wilderness, with a separate 40-acre parcel to the north outside of

wilderness. The Rudnick Commons allotment borders to the east and south, and Sequoia National Forest borders to the west.

There was an active permit on the KP allotment at the time of the Bright Star Wilderness designation in 1994. Prior to 2006, the allotment was managed by the BLM Bakersfield Field Office (BKFO). In 2006, management of the KP allotment was transferred to Ridgecrest Field Office (RIFO) and grazing was suspended until further environmental analysis could be performed (EA: DOI-BLM-CA160-01-106). In 2010, the preference for the KP allotment was transferred to the Onyx Mountain Cattle Company, who has subsequently applied to RIFO for renewal of grazing privileges. There is approximately 1.3 miles of fencing split into four sections along the eastern boundary of the allotment (see map).

B. **Management Units:** There are currently no defined management units within the KP Allotment.

C. **Landscape:** The KP Allotment has a high diversity of vegetation which is reflective of the large elevation ranges from 1150 meters to 1700 meters. There are two riparian areas, North Kelso Spring (NKS) and Lower Cortez Creek (LCC) with appropriate riparian vegetation. NKS is a slow moving stream, located at 1280 m and has an eastern facing slope. LCC is a riparian corridor ranging from the highest elevation to the lowest in the allotment. Higher elevations consist of open Pinyon-Juniper forests, progressing to Big Basin sagebrush and mixed shrubland in lower elevations. A portion of the allotment was burned in the 2005 Piute fire (see map), and KP-4 was located within this area.

Vegetation types within the allotment are classified by the National Vegetation Classification System (NVCS, http://usnvc.org/), and the NVCS Group designation was used for assessment purposes. Vegetation types present on the allotment include:

- Californian xeric chaparral
- Californian montane conifer forest
- Californian broadleaf forest and woodland
- Inter-Mountain Dry Shrubland and Grassland
- Intermountain Basins Pinyon-Juniper Woodland
- Southwestern North American Riparian, Flooded and Swamp Forest/Scrubland
- Inter-Mountain West mesic tall sagebrush shrubland and steppe

Elevations on the KP Allotment range from 1150 meters to 1700 meters. Rainfall occurs primarily during the winter months (October-April) and ranges from Slopes are gentle to moderately steep. This area is typically a system of extreme climatic conditions, with warm to hot summers and freezing winters. Soils are shallow to moderately deep and poorly developed. Average precipitation ranges from 11.67 inches per year (Piutes Remote Automatic Weather Station [RAWS], 1900 m, 12 km to southwest of allotment) to 1.73 inches per year (Bird Spring Pass RAWS, 2250 m, 6.2 miles E).

D. **Period of Use:** The general grazing season is from March 1st through February 28th.

E. **Kind and Class of Livestock:** Cattle, cow/calf pairs.

F. **Other Stratification:** The entire allotment is within designated wilderness.

2. **Identification of Information Reviewed:**
The California Desert District does not have approved rangeland health standards, so the Federal fallback standards were followed as defined in USDI-BLM Grazing Regulations (45 CFR 4180.2(f)1). The following information was considered to determine attainment, and if applicable, contributing factor(s) for non-achievement and failure to make significant progress toward achievement of standards listed later in this section.

A. **Standard 1: Soils, Uplands**
Information relevant to fallback standard: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate and landform.

1. **Soil Stability Indicators: SSF Form (7310-12)**
Upland soils for four sites (KP-1, KP-2, KP-3, KP-4) were assessed and the results were documented on Soil Surface Factor forms (SSF). The SSF form uses a visual rating system to rate the degree of problems observed for soil movement, surface litter accumulations, surface rock, pedestaling, rills, flow patterns and gullies (Table 2.1). Each factor is evaluated on a zero to fourteen scale, with a zero to fifteen scale for flow patterns and gullies, and is based on a series of criteria on the form. The higher the number, the more erosion is being exhibited in the site. The observations are then totaled. Of the 4 sites evaluated for soil movement, 3 were in the stable range (KP-1, KP-2, KP-3) and one was slight (KP-4) (Table 2.2).

Table 2.1

Stable	Slight	Moderate	Critical	Severe
0-20	21-40	41-60	61-80	81-100

Table 2.1

Factor	KP-1	KP-2	KP-3	KP-4
Soil Movement	4	1	1	6
Surface Liter Accumulation	1	1	5	5
Surface Rock	1	1	1	1
Pedestaling	0	0	0	1
Rills	0	0	0	1
Flow Patters	1	1	0	4
Gullies	0	1	2	4
Total	7 (Stable)	5 (Stable)	9 (Stable)	22 (Slight)

2. **Productivity Indicators:**
   a. **Biological:**
      i. **Litter and Organic Matter:** Litter and organic matter buildup were documented in the rangeland health assessments (Sites KP-1, KP-2, KP-3, KP-4). The results were documented on both the SSF form and the 100 Step-Point Transect form at the time of the evaluations (Table 2.3). Results were specific to each site.

Differences in altitude, aspect, sun exposure and precipitation can influence the amount of litter and organic matter present.

Table 2.2

Monitoring Site	KP-1	KP-2	KP-3	KP-4
Vegetative Community	Intermountain Dry Shrubland and Grassland	Intermountain Basins Pinyon-Juniper Woodland	Intermountain Basins Pinyon-Juniper Woodland	Intermountain Dry Shrubland and Grassland
Basal Vegetative Community	43%	40%	22%	30%
Litter	15%	22%	23%	28%
Bare Ground	42%	37%	55%	34%
Cheat Grass	0%	1%	0%	8%

ii. **Biological Soil Crusts:** Biological soil crusts were not observed on any of the sites sampled.

b. **Physical:**

i. **Animal burrowing**: Animal burrowing was not observed on any of the sites sampled.

B. **Standard 2: Riparian/Wetland**

Information relevant to fallback standard: Riparian-wetland areas are in properly functioning condition.

1. **Proper Functioning Condition (PFC)**: A Lotic PFC assessment was conducted for two sites, NKS and LCC. The results were documented on the PFC Assessment forms.

a. **Biotic Indicators**: **Vegetative (obligate, facultative and others)**

Both sites were considered for adequate riparian vegetation, recruitment, appropriate community diversity to retain moisture, vigor, and plant communities providing coarse material. LCC did not have much vegetative recruitment due to a second year drought (Table 2.4).

Table 2.4

Factor	**NKS**	**LCC**
Adequate riparian vegetation	Met	Met
Recruitment of riparian vegetation	Met	Not met
Riparian soil moisture maintained	Met	Met
Riparian plants exhibit high vigor	Met	Met
Adequate source of coarse and/or woody material	Met	Met

b. **Abiotic Indicators: Bank and bed conditions**

Both sites (NKS, LCC) were considered for the watershed not contributing to riparian degradation and if the riparian area was expanding or had met its full potential (Table 2.5).

Table 2.5

Factor	NKS	LCC
The watershed is not contributing to riparian degradation	Met	Met
Riparian area is expanding or has achieved potential extent	Met	Met

C. **Standard 3: Stream Morphology**
Information relevant to fallback standard: Stream channel morphology (including but not limited to gradient, width/depth ratio, channel roughness and sinuosity) and functions are appropriate for the climate and landform.

1. **PFC:** A Lotic PFC assessments was conducted for two sites (NKS, LCC) as part of the assessments. Stability, gradient, width to depth ratio, channel roughness and sinuosity were evaluated.

   a. **Biotic indicators: Vegetative (obligate, facultative and others)**
   Both sites (NKS, LCC) were considered for adequate riparian vegetative cover and root masses to withstand high water flows (Table 2.6).

Table 2.6

Factor	NKS	LCC
Root masses capable of withstanding high stream flow	Met	Met
Adequate stabilizing riparian vegetative cover to dissipate energy during high flows	Met	Met

   b. **Abiotic indicators: Erosion/deposition**
   Both sites (NKS, LCC) were considered for floodplain and channel characteristics adequate to dissipate energy. NKS did not have lateral stream movement associated with natural meandering. Both sites had little to no movement of water, had vertical stability and the stream structure was in balance with the water and sediment being supplied (Table 2.7).

Table 2.7

Factor	NKS	LCC
Floodplain has relatively frequent events	Met	Met
Sinuosity, width/depth ratio and gradient are in balance with the landscape	Met	Met
Riparian area is expanding or at full potential	Met	Met
Watershed is not contributing to riparian degradation	Met	Met
Floodplain and channel characteristics adequate to dissipate energy	Met	Met
Lateral stream movement is associated with natural meandering	Not Met	Met
System is vertically stable	Met	Met
Water source in balance with the water and sediment being supplied	Met	Met

D. **Standard 4: Native Species**
Information relevant to fallback standard: Healthy, productive and diverse populations of native species exist and are maintained.

1. **Biotic Indicators:**
   a. **Community diversity:** This extensive ecological system includes open-canopied mixed shrublands, Joshua tree and yucca woodlands, and sub-alpine woodlands. The dominant species are pine (*Pinus* spp.), oak (*Quercus* spp.), Juniper (*Juniperus* spp.), willow(*Salix* spp.), watercress (*Nastursium* spp.), veronicas *(Veronica* spp.*)*, buckwheat (*Eriogonum* spp.*),* Mormon's tea *(Ephedra* spp.), burrobush (*Hymenoclea* spp.), blazing star *(Mentzelia* spp.*),*Joshua tree and chaparral yucca (*Yucca* spp.*)*, rabbitbrush (*Ericameria* spp.*),* alkali bluegrass *(Poa secunda),* and beavertail (*Oputina spp.)* (Table 2.8).

   b. **Community structure (layers):** The sparse to moderately dense cover of woody species is dominated by *Pinus* spp., and *Juniperus* spp. The transition from Pinyon-Juniper woodlands to Big Basin sage is dominated by *Yucca breifolia* and *Yucca whipplei. Eriogonum* spp.*, Ephedra* spp.*, and Ericamerica* spp.*,* are among the dominant shrubs of the mixed shrublands. Short-tall perennial grasses such as *Poa secunda* and *Stipa speciosa* dominate in the sparse graminoid layer. Annuals moderately populate this layer in years of appropriate precipitation (Table 2.8).

   c. **Exotic species (invaders):** One non-native species was found in the KP allotment, Downey brome (*Bromus techtorum).* It was found in low numbers in two test sites (KP-2, KP-4)(Fig. 1). Mistletoe (*Phoradendron* spp) was observed on juniper species, but not recorded on the 100-point transects (Table 2.8).

   d. **Species vigor(production, mortality, decadence, etc):** The vigor of key species was assessed at all six of the sites (Table 2.8).

   e. **Diversity of age classes:** All six sites were assessed for appropriate diversity of age classes. Three out of the four upland sites had a diverse age range in the plant population. KP-4 was recruiting new growth after the Piute fire, but the recruitment was appropriate for time, climate and landform (Table 2.8).

   f. **Recruitment**: All six sites were assessed for appropriate recruitment. All four of the upland sites showed annual recruitment that was appropriate for the climate and landform (Table 2.8).

   g. **Wildlife habitat (obligate):** Using prior factors (2.D.1.a - 2.D.1.f), determined if adequate support is available for wildlife habitat. All six sites had adequate habitat to sustain viable and diverse wildlife populations (Table 2.8).

   h. **Special status species:** No known special status species were observed, but Kelso Creek Monkeyflower (*Mimulus shevockii*) is known in this allotment (Table 2.8).

Table 2.8

Factor	LCC	NKS	KP-1	KP-2	KP-3	KP-4
Community Diversity	Met	Met	Met	Met	Met	Met
Community Structure	Met	Met	Met	Met	Met	Met
Exotic Species	Met	Met	Met	Met	Met	Met
Species Vigor	Met	Met	Met	Met	Met	Met
Diversity of Age Classes	Met	Met	Met	Met	Met	Met
Recruitment	Met	Met	Met	Met	Met	Met
Wildlife Habitat	Met	Met	Met	Met	Met	Met
Special Status Species	Met	Met	Met	Met	Met	Met

3. **Summary of Determinations and Rationale**
Determination for achievement of standards: Examination of the information listed in Section 2 (above) and recent field visits, if applicable, indicate the level of attainment for the respective standard.

Standard 1: Soils, Uplands

1. ▬ Meeting the Standard	2. ▭ Not meeting the standard but making significant progress towards
3. ▭ Not meeting the standard, current livestock grazing management practices are not significant factors	4. ▭ Not meeting the standard, current livestock grazing management practices are significant factors
5. ▭ Not meeting the standard, cause not determined	6. ▭ Conforms with guidelines for livestock grazing management
7. ▭ Does not conform with guidelines for livestock grazing management	

A. **Factors for achievement:**
Several factors influence aspects of upland soils function. Past management practices, land designation, non-active grazing, fire suppression, and existing roads are influencing factors on ground cover, wind and water erosion and vegetation vigor.

B. **Rational for Determination:**
A Rangeland Health Field Assessment (Sec. 1-2) was conducted on the KP allotment. The indicators pertaining to Soil/Site Stability revealed that 3 indicators (75 percent) were rated none-to-stable and one indicator (25 percent) was rated at stable-to-slight. The 25 percent was considered acceptable due to the natural process of a fire and the high amounts of recruitment in the area. No indicators were rated moderate or severe. The 100-Step-Point Transects indicate the amount of vegetation cover compared to bare ground or soil. If there is enough vegetative cover to prevent erosion or displacement of soils, the habitat is considered stable. Since there was little evidence of disturbance in the four upland test sites, all four sites suggested appropriate vegetative cover and soil stability.

Standard 2: Riparian/Wetland

1. ▬ Meeting the Standard	2. ▭ Not meeting the standard but making significant progress towards
3. ▭ Not meeting the standard, current livestock grazing management practices are not significant factors	4. ▭ Not meeting the standard, current livestock grazing management practices are significant factors
5. ▭ Not meeting the standard, cause not determined	6. ▭ Conforms with guidelines for livestock grazing management
7. ▭ Does not conform with guidelines for livestock grazing management	

A. **Factors for achievement:**
The primary determination of whether riparian/wetland areas are meeting standards is through examination of the interaction of livestock with soils, vegetation cover and vegetation composition. Livestock influence soils directly through compaction and disturbance. Soil compaction and disturbance reduces water storage capacity and the ability of plant roots to establish. To meet the standards, riparian/wetlands are required to support sufficient vegetation cover, which allows for sufficient water dispersal during heavy water flow.

B. **Rational for Determination:**
The riparian/wetland standard was met for NKS and LCC. Both sites showed little to no disturbance with soils, vegetation cover or composition.

Standard 3: Stream Morphology

1. ▬ Meeting the Standard	2. ▭ Not meeting the standard but making significant progress towards
3. ▭ Not meeting the standard, current livestock grazing management practices are not significant factors	4. ▭ Not meeting the standard, current livestock grazing management practices are significant factors
5. ▭ Not meeting the standard, cause not determined	6. ▭ Conforms with guidelines for livestock grazing management
7. ▭ Does not conform with guidelines for livestock grazing management	

A. **Factors for achievement:**
Stream morphology functions include the stabilizing influence of riparian vegetation on stream banks and the delivery of enough clean water to sustain native aquatic invertebrates, amphibians and fish. Deeper rooted vegetation forms protective fibrous root networks that also stabilize stream banks. Coarse material is also beneficial to trap sediments. Taller vegetation is crucial to shade riparian areas to minimize water temperatures. Allowing riparian vegetation successional recruitment is essential to establish willows and other woody vegetation considered favorable in riparian conditions.

B. **Rational for Determination:**
Both LCC and NKS had little to no frequent disturbance to stream banks, allowing stable morphology.

Standard 4: Native Species

1. ▬ Meeting the Standard	2. ▭ Not meeting the standard but making significant progress towards
3. ▭ Not meeting the standard, current livestock grazing management practices are not significant factors	4. ▭ Not meeting the standard, current livestock grazing management practices are significant factors
5. ▭ Not meeting the standard, cause not determined	6. ▭ Conforms with guidelines for livestock grazing management
7. ▭ Does not conform with guidelines for livestock grazing management	

A. **Factors for achievement:**
This standard determines whether current management meets the need for maintaining populations of threatened and endangered and other locally important species. This also includes noxious weeds since these plants have the ability to disrupt ecological processes and replace more desired native species.

B. **Rational for Determination:**
All six sites meet this standard. All sites had a diverse population of plant species and a wide age range in recruitment. Two sites had a small amount of cheat grass present, but because this amount was 0-10% per site, this amount was not of concern.

4. **For Those Standards Not Achieved, Summary of Contributing Factor(s) for Determination and Supporting Rationale**

All standards were met so this section is not applicable.

5. **BLM Staff Who Reviewed Available Information and Their Recommendations for Development and Implementation of Appropriate Action to Make Significant Progress Toward Achieving the Standard(s).**

All standards were met so this section is not applicable.

6. **Documentation of Involvement by Permittees/Lessees, State Agencies and Interested Public to Determine Conformance with Standards and to Determine Contributing Factors**

Indicate the occurrence of public participation (e.g., lessees, interested public, other Federal or State/local agencies), or opportunities for public participation to review achievement of standards and contributing factors:

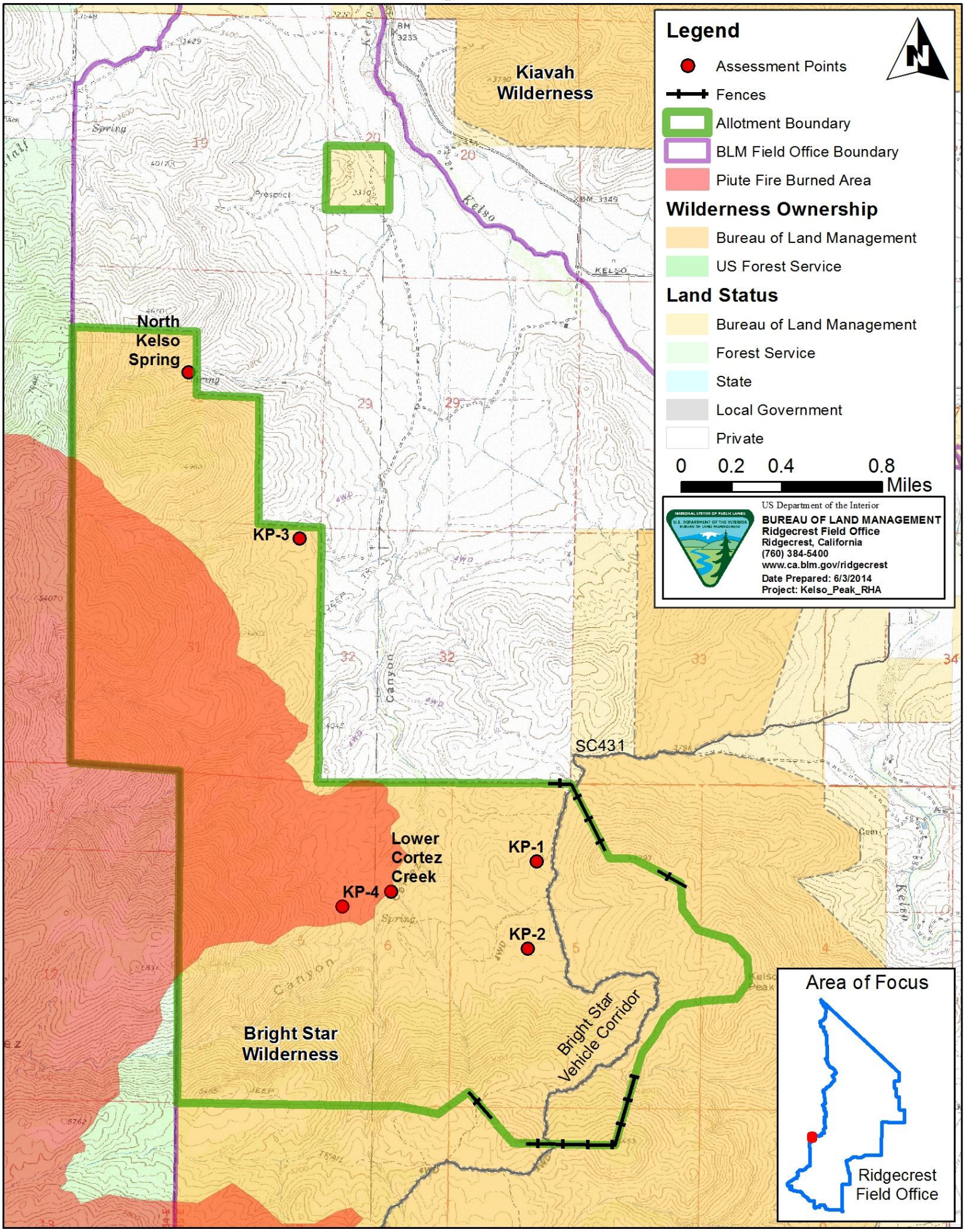
Public scoping was not conducted prior to conducting this rangeland health assessment. The final determination will be made available to the public on the BLM Ridgecrest Field Office webpage.

7. **Authorized Officer's Determination and Priority for Appropriate Action and Implementation**

I have reviewed the recommended determination and supporting rationale regarding the achievement of standards. I concur that the Kelso Peak allotment does meet the Federal fallback rangeland health standards for Soils/Uplands, Riparian/Wetland, Stream Morphology, and Native Species.

This assessment and determination will be reviewed by a team within 10 years and before the next grazing permit renewal to ascertain the adequacy of current grazing management to attain rangeland health standards.

for _____ Date 6 4 2014

Carl Symons
RIDGECREST FIELD OFFICE MANAGER

Kelso Peak Allotment Rangeland Health Assessment Sites