

# Stock Drive (#0802)

## Rangeland Health Standards Assessment (RHSA)

### Introduction/Background

The **Stockdrive** allotment (#0802) is a small 40 acre parcel that borders the western edge of the Harpold Ridge allotment. Stockdrive is located approximately 12 miles due east of Klamath Falls, Oregon along Harpold Road just south of Harpold Gap and west of Harpold Ridge. In addition to the BLM lands, there is a much larger amount of private base property lands, some of which may be grazed in common with the BLM lands. The BLM lands are fenced separately from the private lands according to the grazing file, though the functional condition of this fencing is suspect.

Stockdrive is listed in the Klamath Falls ROD/RMP as 40 acres in size. The allotment is grazed via a section 15 (of the Taylor Grazing Act of 1934) grazing lease with 1 cow from May 1<sup>st</sup> through June 30<sup>th</sup> (2 AUM's). However field checks in recent years, as well as conversations with the permittee indicate that the allotment is generally used as a transition area for a short amount of time between private lands.

The base property for this allotment is owned by W. P. and Susan Worthington. The first record of a grazing lease in the permittee's file is dated January 18, 1985. However, it was leased prior to this date, and in 1981 the lease was transferred from Clyde and Audrey Carner to Worthington.

This Assessment is largely based on an evaluation of Ecological Site Inventory (ESI) information, supplemented with what allotment specific information could be found, to determine if current livestock grazing management is meeting the Standards for Rangeland Health and LUP objectives.

Due to the long term lower priority status of this allotment, no rangeland monitoring information has apparently ever been collected. Because of this dearth of information, ESI was completed for this allotment (and surrounding areas) during the fall of 2005 in preparation for Assessment. There was only one Site Write-up Area (SWA) worksheet completed for this area during ESI, and the site classified as a Shallow Loam 14-18". The vegetation of the site is dominated by shrub species such as rabbitbrush (*Chrysothamnus nauseosus* and *velutinus*), bitterbrush (*Purshia tridentata*), and mountain big sagebrush (*Artemisia tridentata* ssp *vaseyana*). The area also has a high composition of grasses, and a few scattered junipers. The topography of the allotment is gentle to rolling. (The vegetation communities are covered comprehensively under Standard 1 as is the past grazing use.)

The Stockdrive allotment had no "Identified Resource Conflicts/Concerns" noted in the 1995 Klamath Falls ROD/RMP.

Categorization of grazing allotments has been required by Bureau policy since the early 1980's in order to direct limited manpower and funding to resource problem areas that are most in need of it and where the probability of success is good. A brief summary of the allotment specific categorization efforts follows. ("I" or "Improve" allotments have the highest priority resource concerns; "M" or "Maintain" allotments are moderate to low priority; and "C" or "Custodial"

allotments are the lowest resource priority, usually due to small size and/or lack of ability to make significant change. See the ROD/RMP Appendix H, pages H-69-70 for further information on the allotment categorization – “Selective Management” process.)

#### 1982 Ranking (Stockdrive)

#1 – Range Condition: Satisfactory (“M” ranking)

#2 – Forage Production Potential: Low potential and present production is near potential (“C” ranking)

#3 – Resource Use Conflicts: Limited conflicts or controversy may exist (“C” ranking)

#4 – Economic Returns: No opportunity for positive economic returns or no developments proposed (“C” ranking)

#5 – Present Management: Satisfactory or is only logical practice (“C” ranking)

The Stockdrive allotment was ranked overall in the “C” category during the 1982 ranking exercise. It was recommended during the 1982 ranking that the allotment be disposed of, with the following explanation: “Although this allotment is in critical habitat, it is a small parcel surrounded on three sides by private land and a highway on the fourth”.

Because of the continued lack of significant problems, resource concerns, and/or ability to effect real change, the allotment was carried forward as a “C” management category allotment during the RMP process in the early 1990’s, and is so listed in the 1995 KFRA ROD/RMP.

#### **Additional Assessment Process Notes:**

Bureau policy and direction articulates a preference that RHTA’s be done at the watershed scale, unless “compelling” reasons dictate a different assessment boundary. Watershed analysis has been completed for the KFRA’s Westside and recently for the entire Gerber Block. Since no other watershed analyses are currently planned for the remaining portions of the KFRA, the un-assessed allotments will be assessed individually. Since grazing management – and changes to such – must be effected physically at the allotment level and administratively at the permit/lease level, some type of evaluation and assessment at an allotment scale is appropriate and usually unavoidable. Typically, cattle use stops/begins at an allotment boundary fence. This assessment process is also in accordance with current direction and policy guidance, including the recently issued Rangeland Health Standards Handbook (H-4180-1).

Some of the information discussed under one Standard may be discussed under one (or more) of the other Standards. This is partially due to the same monitoring or observational information being used to address several Standards. The bulk of the monitoring information is discussed in the first Standard because the allotment is upland in nature and the first Standard on upland functionality makes a convenient location for most of the analysis.

The condition or degree of function of an area in relation to the Standards and its trend toward or away from any Standard is determined through the use of reliable and scientifically sound indicators – known as “Indicators of Rangeland Health”. The H-4180-1 Handbook defines an “indicator” as: *Components of a system whose characteristics (presence or absence, quantity, distribution) are used as an index of an attribute (e.g. rangeland health attribute) that are too difficult, inconvenient, or expensive to measure.* Though the Handbook encourages the use of “...dissimilar indicators...” for each Standard, there is rarely enough information available to have unique indicators for each of the five Standards. Examples of

indicators can include ecological condition ratings, plant cover and productivity, different erosional attributes, and many other potential ones. In this Assessment area there has been little historical grazing related information collected due to its low priority status. Thus, there are very few quantitative and qualitative indicators that can be use for this Standards assessment, outside of the recent ESI information. The indicators and studies used are explained in the assessment that follows. (Note: The brief description of the Standard in bold is quoted from the approved “*Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington – August 12, 1997*”.)

The “Guidelines for Livestock Grazing Management” comprise a set of concepts to consider when evaluating the current or proposed grazing management of an area against the 5 Standards. To quote the 4180 Handbook, a “guideline” is: “*A practice, method, or technique used to ensure that standards can be met or that significant progress can be made toward meeting the standard. Guidelines are tools such as grazing systems, vegetative treatments, or improvement projects that help managers achieve standards. Guidelines may be adapted or modified when monitoring or other information indicates the guideline is not effective, or a better means of achieving the applicable standard becomes appropriate.*” The actual Oregon/Washington Guidelines for Livestock Grazing Management are included with this assessment, for informational purposes, as Appendix 1.

\* \* \*

## **STANDARD 1 – WATERSHED FUNCTION – UPLANDS**

**(Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and land form.)**

The primary information to be used in evaluating this Standard is that collected during the recent Ecological Site Inventory (ESI) including the general ESI related observations with some limited observational notes from the grazing files and the professional judgment of BLM personnel who have worked in the area for many years. The indicators that this information helps address are: plant cover, litter, composition, production, age class, and community structure; level of erosion and overland flow; apparent trend. Some of these indicators are implicitly addressed with the ecological condition rating and others with the variety of ESI related observations (e.g. SSF, OAT).

### **Ecological Site Inventory (ESI):**

An ESI was completed for the allotments on Harpold Ridge during the late summer and fall of 2005 by KFRA range staff members. The ESI resulted in the preparation of a “*Rangeland Inventory – Ecological Status Worksheet*” covering the “Site Write-up Area” or SWA in the allotment. A SWA is a distinct zone of vegetation that is relatively homogeneous within the SWA (though may be made up of several ecological sites) but different from other SWA’s. Often, SWA’s carry over from one allotment to another, and are used in several allotments for consistency. However, this allotment only had one SWA, which did not carry over into the neighboring Harpold Ridge allotment.

The following is a summary of the ESI information which is keyed to the SWA number on the ESI map located in the Stockdrive ESI file (to be placed in the allotment file cabinet), the information from which has also been entered into ArcView (GIS). The ecological sites are in the Major Land Resource Area (MLRA) 021X – *Klamath and Shasta Valleys and Basins* which is the MLRA that cover

the entire KFRA. The pertinent ecological sites, which were created and administered by the NRCS, are found on-line at this URL: <http://esis.sc.egov.usda.gov/Welcome/pgReportLocation.aspx> Copies of the KFRA specific (slightly modified for our lands) 021X ecological site guides are located in the KFRA office in the “range” area. The modified guide is what was used to do the actual condition ratings.

**Stockdrive (0802)**

SWA #	SWA %	Ecological Site Name	Worksheet #	Acres	Condition	Trend
SD-1	100% *	Shallow-Loam 14-18”	DE-05-004	40	Fair	Static

\* About 20% of this site has “swale” areas that exhibit inclusions of dense Sandberg’s bluegrass, basin wildrye, rabbitbrush, and mountain big sagebrush, most likely due to the topography that results in more runoff and deeper soils.

The overall condition of the **Stockdrive Allotment** by condition class and weighted by acres (40 acres total) is summarized in the following table:

Ecological Status	Acres	Percent of Allotment
Mid Seral	40	100%

The information presented above shows that the area is in fair condition, and is marginally functional relative to the three major attributes of rangeland health – *Soil/ Site Stability*, *Hydrologic Function*, and *Integrity of the Biotic Community*. It would be preferred to have at least a late seral rating and a bit better "functionality."

Vegetation cover on this site may not be at the level described in the ecological site description for the Shallow Loam 14-18” site, but this is most likely due to the low production potential of the site. The area does have sandy soils, allowing increased levels of infiltration and lower levels of runoff. A proper vegetation management objective for this allotment would be to at least maintain the current ecological condition rating with an upward trend, with the goal of achieving a late seral to PNC condition. (See the “Management Recommendations” section later in this document.)

The area was noted as having heavily hedged bitterbrush (almost certainly a result of deer use), a substantial amount of rabbitbrush, and being in “poor” shape. The abundance of rabbitbrush is likely a function of past grazing abuse, possibly enhanced by fire long ago. Once rabbitbrush is firmly established, it does not diminish from the plant community very quickly, regardless of proper management.

The area did not have any sign of recent cattle use, with hardly any sign at all being present. Thus, it seems that the area is not in fair condition due to grazing practices being inappropriate. As mentioned earlier, this area seems to be a low production site, for reasons that are not completely clear to the rangeland staff evaluating this site. It is most likely a result of low productivity soils, and possibly some overgrazing in the distant past, leading to a slow recovery of the site.

### **Other Monitoring/Observational Information:**

No rangeland monitoring data has apparently been collected on this allotment due to the lower priority; thus the need for doing the ESI discussed above. During that survey, two additional resource condition observations are made at each write-up area – trend (Observed Apparent Trend or OAT) and soil erosion (Soil Surface Factor or SSF).

The OAT for the pertinent worksheet on the Stockdrive allotment indicated a static trend. Along with the trend reading, the SSF ratings for Stockdrive were within the “Moderate” erosion condition class primarily due to the increase in shrub species and decrease in perennial bunchgrasses. These two readings taken together with the ESI information indicate that the ecological conditions on the allotment are marginally functional, and will likely to improve over time.

### **Forage Allocation & Use History:**

Based on a review of the older grazing files, the section 15 grazing lands in the old Lost River Resource Area (which is now a large part of the current KFRA) were converted from acres based to AUM based leasing in 1968-1970. (The section 15 lands are essentially all the KFRA administered lands outside of the Gerber Block.) The section 15 lands were typically converted at the ratio of 7 to 10 acres equaling one AUM, e.g. a 100 acre lease of BLM land would be leased at 10-14 AUM's. These conversions were not based on any type of specific range survey or monitoring information, but were instead converted based on allotment acreage and an estimate of the forage capabilities of the area. Given the elevation and climatic regime of the BLM lands in our area (13”-18” precipitation) and the vegetation communities that this precipitation can support, a rating of 7-10 acres per AUM can be an acceptable maximum allocation though in many areas a lower rating (more acres per AUM) is warranted if topography, condition, or other factors limit the availability or usability of forage. Unfortunately, no specific information on past forage capacity allocations was found for this Assessment allotment.

The following is a short “case history” that someone (most likely Jon Collins, the range conservationist during the 1980's) put together and placed in the lessee's grazing file; it is reiterated completely here:

“Clyde and Audrey Carner obtained a grazing lease by transfer of base property for 40 acres of public land described as T 39 S., R. 11 E., Sec. 31, NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> to Carner's private land by Century Ranch...May, 1981...

On October 18, 1983 W.P. and Susan Worthington acquired the Carner Ranch and associated BLM grazing lease for T. 39 S., R. 11 E., Sec 31, NWNW.”

Grazing use (or at least the licensing) on the allotment appears to have been pretty much continuous over the time noted in the case files and since 1981 at or below the current preference, which is 1 cow from May 1 to June 30. Generally, this allotment is used as a transition pasture for a very short amount of time. Utilization observations made during the ESI in 2005 indicated no recent use. Given the nonexistent grazing use that has been observed, it can be assumed that the current livestock level and season of use is appropriate and having no significant impact on conditions.

**Determination:** *This Standard is not being met, but is not a result of current grazing practices.*

The recent ESI and other observational information indicate that the BLM administered lands in the allotment is dominated by fair (mid-seral) ecological conditions that are not at an acceptable level for meeting this Standard. The ecological state of this allotment is not being impaired by the current grazing practices, and is most likely a result of being an area with low production potential, possibly heavy overgrazing in the distant past, and the possibility that a fire burned in the area some time ago. The allotment was determined to have a static trend at the time the ESI was taken, but most likely has a slow upward trend, complimented by the very slight use by cattle. The area is considered marginally functional, and the condition is unrelated to cattle grazing. (See the “Management Recommendations” section.)

## **STANDARD 2 – WATERSHED FUNCTION – RIPARIAN/WETLAND AREAS**

**(Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and land form.)**

The primary information, monitoring, and indicators to be used in evaluating this Standard are the same as those listed under Standard 1.

There is no free water within the Stockdrive allotment. Cattle must water on private ground neighboring the allotment. As a side note, there is an old abandoned water diversion structure that was most likely used many years ago for irrigation water. It is no longer in use, and has not been used in a very long time.

**Determination:** *This Standard is currently being met (or is not applicable).*

Given the general observation that there are no riparian or wetland areas, this Standard must be considered met.

## **STANDARD 3 – ECOLOGICAL PROCESSES**

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

The primary information, monitoring, and indicators to be used in evaluating this Standard are the same as those listed under Standard 1.

Since the allotment is all upland in nature, the analysis and information listed under Standard 1 is the basis for the determination under this Standard. The 2005 ESI found that the allotment classified as mid seral and exhibited a moderate soil surface factor rating. Although the area is in fair condition, the trend is static (although most likely upwards) and is likely moving towards the ecological site description vegetation composition. The allotment is viewed as being only marginally functional

ecologically, and the current grazing is not believed to be a significant factor in the condition of the area.

**Determination:** *This Standard is not being met, but is not a result of current grazing practices.*

As with the determination for the first Standard, the current fair (mid-seral) ecological state for the vegetation community on the allotment indicates that the area is not at an acceptable level of functionality, and that Standard 3 is not being met. The site is dominated by early to mid-seral grasses, such as *Poa secunda* (Sandberg's bluegrass) and *Stipa lemonii* (Lemon's needlegrass). These plants do not contribute to the ecological condition rating of the site much, leading to a lower rating (fair). However, the plant community that is present, including some late-seral grass species, as well as shrubs, provide root systems that aid in holding soils, and provide litter that protects the soil from erosion due to rainfall (See the "Management Recommendations" section.)

## **STANDARD 4 – WATER QUALITY**

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

As discussed under Standard 2, there is no surface water located on the Stockdrive allotment. Past (and future) grazing on these allotments is not thought to have the potential for any effect on the water quality external to the BLM lands because of the detachment and the fact that the vegetation communities on the BLM administered lands are functional, i.e. mid-seral condition.

**Determination:** *This Standard is currently being met (or is not applicable).*

At this time, neither the surface water nor groundwater within the allotment has been listed for exceeding State water quality standards. Given the functional, mid-seral ecological conditions and the lack of significant riparian or wetland areas, this Standard is either not applicable or must be considered met.

## **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 land form.)**

The primary information, monitoring, and indicators to be used in evaluating this Standard are those listed under Standard 1.

**Animals:** The current ecological conditions (Standard 1) indicate that habitat conditions for all native wildlife species are likely adequate. The importance of BLM lands in this area is due to their positioning as "islands" of wild lands to a "sea" of variably developed and altered private lands.

**Fisheries:** There are no habitats within the allotment that contain listed (or any) fish.

**Plants:** The Stockdrive Allotment (#0802) was systematically surveyed for botanical resources in July 1999. No special status plant or noxious weed populations were found during this survey or were previously known to occur on the allotment.

**Determination:**                      ***This Standard is currently being met.***

Standard 5 is considered fully met on this allotment. See Standards 1, 2, and 3 for the data, evaluation, and determination information that is pertinent to this Standard. However, the primary indicators of proper wildlife/plant habitat functionality are the lack of grazing related problems, and the static to most likely upward trend of the area. (See the “*Management Recommendation*.” section.)

**Management Recommendations:**

As noted already, the Stockdrive allotment is in mid-seral condition with a static (though it is thought to be most likely slowly upwards) trend. Since grazing is so minimal on this allotment, the condition is not determined to be the result of current grazing practices, but instead a result of low productivity soils, possibly coupled with past over-use of the area by cattle or other grazing animals. For this reason, there is no need for a change in the current livestock management or leases. The following management recommendations or affirmations reflect the findings of this Assessment, none of which affect the current grazing leases:

1. Currently, this allotment is listed as Zone 1, which is the retention category. It is recommended that in the RMP that is pending, all of the BLM administered lands in the allotment be transferred to a Zone 3 status (disposal). Given the lands marginal value for wildlife, grazing, and watershed functionality, it is recommended that it be sold. As noted in the 1982 ranking, “although this allotment is in critical habitat, it is a small parcel surrounded on three sides by private land and a highway on the fourth”. It would be more logical for this allotment to be a part of the neighboring private land.
2. The allotment was noted as being adequately fenced at this time. The ongoing maintenance of the fencing between the Harpold Ridge allotment and the private land that borders it should continue to be maintained by the responsible parties.
3. The Klamath Falls Resource Area has a very proactive weed program which includes inventories and site treatments that consist of biological, chemical, and manual treatments. The treatment efforts are to contain weed sites, reduce population size, and eradicate weed sites where possible. This effort will continue to be pursued on this and all grazing allotments in the KFRA.
4. Due to the small size and relatively low priority status of the Stockdrive allotment, the establishment of formal rangeland monitoring studies is not necessary in the foreseeable future. However, if the land is retained in BLM ownership, it is highly recommended that a photo plot be established and read every 3 to 5 years. This would allow a more definitive determination of whether or not current practices are suitable for improvement of allotment condition. It is recommended that the allotment receive use supervision every 1 or 2 years during or just after grazing use to ensure that no significant grazing related resource problems are occurring.

5. The basic plant community objective for this allotment is to at least maintain the current ecological condition rating (as listed under the ESI section of Standard 1) with a suggested longer term goal (15-20 years) of steadily improving the condition to late seral (i.e. 51% of PNC or better) over that time period. Management to accomplish this would be a continuance of the current grazing lease parameters which should naturally allow it to slowly improve in condition over the listed period.

**Contributors/Reviewers**

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**Determination**

(X) Existing grazing management practices and /or levels of grazing use on the Stockdrive Allotment (#0802) promotes achievement or significant progress towards the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management (Appendix 1).

( ) Existing grazing management practices and/or levels of grazing use on the Stockdrive (#0802) allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards for Rangeland Health and conform with the Guidelines for Livestock Grazing Management.

/s/ *D.K. Hoffbeins* (Acting Field Manager)

7/31/06

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Jon Raby, Field Manager, Klamath Falls Resource Area

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Date

