

EVALUATION AND DETERMINATION
Achieving the OR/WA Standards for Rangeland Health
and
Conformance with the Guidelines for Livestock Grazing Management

Field Office: Medford Determination Date(s): July 8, 2008
 Grazing Allotment Name/Number: Jenny Creek/10108

Standard 1 Watershed Function – Uplands

1 ■ Meeting the Standard	5 □ Not Meeting the Standard, cause not determined
2 □ Not Meeting the Standard, but making significant progress towards	
3 □ Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 ■ Conforms with Guidelines for Livestock Grazing Management.
4 □ Not Meeting the Standard, current livestock grazing management practices are significant factors	7 □ Does not conform with Guidelines for Livestock Grazing Management

Causal Factors for Achievement:

While historic management practices (placement of salt blocks, location of stockpounds, timber harvest, historic livestock use) and high shrink-swell clay content of soils has influenced vegetation condition, improved livestock control has allowed for considerable improvement in upland watershed condition.

Rationale for Determination:

Records for the last 15 years indicate the Jenny Creek Allotment has been grazed relatively little in the last few years, on a sporadic basis. In the uplands, the replacement of annual grasses with perennial plants since the 1950/1960s is a strong indication of improvement in watershed function. Deeper-rooted perennial plants cycle nutrients more effectively than annuals, while the access to deeper lying soil moisture allows for growth longer into the growing season. Other locations associated with shallow clay-dominated soils show a proliferation of noxious weeds, including annual forbs. Bulbous bluegrass, a short-lived non-native perennial grass is increasing on gentle southerly slopes. Trend plots show that the frequency of native perennial grasses is static or increasing over time. A high proportion of the buckbrush appears to be degenerate, likely because of the lack of fire for many decades. The current and continued improvements of vegetation condition as a consequence of fencing and improved livestock control allow the Jenny Creek Allotment to meet the upland watershed function standard.

Standard 2 Watershed Function – Riparian/Wetland Areas

1 <input type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
2 <input checked="" type="checkbox"/> Not Meeting the Standard, but making significant progress towards	
3 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 <input checked="" type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
4 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are significant factors	7 <input type="checkbox"/> Does not conform with Guidelines for Livestock Grazing Management

Causal Factors for Non-Achievement:

Several factors influence the functionality of riparian and wetland areas. Management practices including livestock grazing, timber harvest, road construction, and water withdrawals contribute to elevated fine sediment levels, lack of riparian shade, elevated water temperatures, loss of connectivity, aquatic habitat degradation, and excessively low summer flows prevent the attainment of the rangeland health standard for riparian/wetland areas in the Jenny Creek Allotment.

Rationale for Determination:

Stream channel riparian areas show improvement in age class distribution, community structure, and vegetation composition expressed as the establishment of vegetation on bare ground; replacement of grass by sedge; and replacement of herbaceous vegetation by riparian shrubs depending on the site (Hosten 2007; Hosten and Whitridge 2007). Much of this improvement is due to natural successional processes following past flood events and improved livestock management. Changes in season-of-use and reduction in livestock numbers appear partly responsible for the increased extent of sedges, rushes and riparian woody vegetation (Hosten and Whitridge 2007). The expansion of sedges and or woody riparian vegetation implies that there has been an increase in streamside root mass providing adequate streambank stabilization (Hosten 2007; Hosten and Whitridge 2007). Riparian vegetation associated with seeps and springs generally do not show the same improvement as streamside riparian areas. However, since the development of the Jenny Creek riparian pastures in 1990, seeps and springs show rapid development of perennial riparian vegetation inside the riparian pastures.

The rapid development of willow stands since riparian pasture development has improved conditions for beaver along Jenny Creek. While evidence of willow harvest by beaver is common along the watercourse, improvement in habitat has not yet resulted in beaver dam construction within the Jenny Creek Allotment.

An ODFW Physical Habitat Survey (2002) was conducted on a segment of Jenny Creek (T40S R4E Section 4) in the allotment. Scour pools and riffles dominated the reach with

an average gradient of one percent. Very high levels (45 percent) of fine and organic sediments were observed, well above the ODFW benchmark set for aquatic organisms. High sediment is due in part to the upstream reservoir system that moderates the magnitude and intensity of winter flushing flows. BLM Stream Surveys and PFC Assessments have not been collected on this part of Jenny Creek or Skookum Creek.

Standard 3 Ecological Processes

1 <input type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
2 <input checked="" type="checkbox"/> Not Meeting the Standard, but making significant progress towards	
3 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 <input checked="" type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
4 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are significant factors	7 <input type="checkbox"/> Does not conform with Guidelines for Livestock Grazing Management

Causal Factors for Non-Achievement:

Riparian conditions along Jenny Creek have been notoriously bad due to the influence of livestock and the 1974 floods. Cross-fencing, the creation of riparian pastures, and intermittent grazing by livestock have allowed for an improvement in plant composition and structure, particularly in the riparian areas. Despite improvements, the continued existence of cut banks and slower improvement of uplands continue to be a problem.

Rationale for Determination:

Records for the last 15 years indicate the Jenny Creek Allotment has been grazed relatively little in the last few years, on a sporadic basis. Fencing off the riparian pastures in 1990 resolved the problem associated with livestock aggregating along Jenny Creek. The combination of livestock influence and the 1974 floods resulted in cut banks and a poorly vegetated riparian area. Chaining of trees along the riverbanks together with intermittent livestock use has allowed the cutbanks to start healing while riparian vegetation has regenerated to create dense willow thickets and lush patches of riparian obligate sedge, cattails, and forbs. Uplands show more moderate improvement in plant composition on deeper soils under oak canopy, but little change under open conditions with shallow clay-dominated soils.

Management (cross fencing) and intermittent grazing have created conditions allowing successional processes to achieve great improvement in vegetation condition and structure, allowing the Jenny Creek Allotment to make progress towards attaining the standard for ecological processes.

Standard 4 Water Quality

1 <input type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
2 <input checked="" type="checkbox"/> Not Meeting the Standard, but making significant progress towards	
3 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 <input checked="" type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
4 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are significant factors	7 <input type="checkbox"/> Does not conform with Guidelines for Livestock Grazing Management

Causal Factors for Non-Achievement:

Water quality in this allotment has been influenced by livestock grazing, water withdrawals and the 1974 floods. These influences contribute to elevated fine sediment levels, lack of riparian shade, elevated water temperatures, loss of connectivity, aquatic habitat degradation, and excessively low summer flows. Cross-fencing, the creation of riparian pastures, and intermittent grazing by livestock have allowed for an improvement in plant composition and structure, particularly in the riparian areas.

Rationale for Determination:

This allotment is not meeting Standard 4 (Water Quality) because the combination of livestock influence and the 1974 floods resulted in downcut stream banks and poorly vegetated riparian areas, negatively affecting stream temperature, establishment of riparian vegetation, stabilization of streambanks, sediment regimes and water quality.

The portion of Jenny Creek that flows through the allotment is on the Oregon DEQ’s 2004/2006 Clean Water Act Section 303(d) list for failing to meet summer temperature standards (salmonid fish rearing) (ODEQ 2006). Barr et al. (in prep.) found significantly lower water temperature and higher levels of dissolved oxygen in ungrazed versus grazed springs.

An ODFW Physical Habitat Survey (2002) was conducted on a segment of Jenny Creek (T.40S., R.4E., Section 4) in the allotment. Scour pools and riffles dominated the reach with an average gradient of one percent. Very high levels (45 percent) of fine and organic sediments were observed, well above the ODFW benchmark set for aquatic organisms. High sediment is due in part to the upstream reservoir system that moderates the magnitude and intensity of winter flushing flows.

Records indicate that the Jenny Creek Allotment has been grazed relatively little in the last few years, on a sporadic basis. Stream channel riparian areas show improvement in age class distribution, community structure, and vegetation composition expressed as the

establishment of vegetation on bare ground; replacement of grass by sedge; and replacement of herbaceous vegetation by riparian shrubs depending on the site (Hosten 2007; Hosten and Whitridge 2007). Much of this improvement is due to natural successional processes following past flood events and improved livestock management. Changes in season-of-use and reduction in livestock numbers appear partly responsible for the increased extent of sedges, rushes and riparian woody vegetation (Hosten and Whitridge 2007). The expansion of sedges and or woody riparian vegetation implies that there has been an increase in streamside root mass providing adequate streambank stabilization (Hosten 2007; Hosten and Whitridge 2007).

Fencing off the riparian pastures in 1990 resolved the problem associated with livestock congregating along Jenny Creek. The installation of instream log structures together with intermittent livestock use has allowed the downcut stream banks to begin healing while riparian vegetation has regenerated to create dense willow thickets and lush patches of riparian obligate sedge, cattails, and forbs. These improvements in riparian conditions show progress toward meeting this water quality standard.

Standard 5 Native, T&E, and Locally Important Species

1 <input checked="" type="checkbox"/> Meeting the Standard	5 <input type="checkbox"/> Not Meeting the Standard, cause not determined
2 <input type="checkbox"/> Not Meeting the Standard, but making significant progress towards	
3 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are not significant factors	6 <input checked="" type="checkbox"/> Conforms with Guidelines for Livestock Grazing Management.
4 <input type="checkbox"/> Not Meeting the Standard, current livestock grazing management practices are significant factors	7 <input type="checkbox"/> Does not conform with Guidelines for Livestock Grazing Management (list Guidelines No(s) in non-conformance)

Causal Factors for Achievement:

Several factors influence abundance and distribution of native, threatened and endangered (T&E), and locally important species in this allotment. Management practices (placement of salt blocks, location of stockponds, timber harvest, historic livestock use), current livestock grazing, fire suppression, environmental factors (elevation, slope, aspect, soils), and high road densities all influence Threatened and Endangered (T&E) and locally important species.

Rationale for Determination:

Isolated populations of yellow star thistle (*Centaurea solstitialis*), and Dyer's woad (*Isatis tinctoria*) occur within the allotment. Many of these weed populations occur along roads or in areas historically disturbed by forestry operations. In the non-conifer habitats preferred

by livestock, medusahead (*Taeniatherum caput-medusae*) and other exotic annual grasses are present in most meadows, and dominant in some areas.

There are no federally listed plant species within the boundary of the Jenny Creek Allotment, and the one population of *Calochortus greenei* is unlikely to be affected by livestock because it occurs in an area that receives slight to light use by livestock.

Effects to T & E and Special Status Terrestrial Wildlife Species

Two BLM Special Status terrestrial wildlife species listed as “Sensitive” are found in the Jenny Creek allotment. The Foothill yellow-legged frog (*Rana boylei*) and Northwestern Pond Turtle (*Actinemys marmorata marmorata*) are dependent on riparian and aquatic habitat and are negatively affected when these habitats are degraded by cattle. Habitat degradation occurs through streambank trampling, vegetation removal, and wading in shallow ponds, springs, and streams. Records indicate that the Jenny Creek Allotment has been grazed relatively little in the last few years, on a sporadic basis. Stream channel riparian areas show improvement in age class distribution, community structure, and vegetation composition expressed as the establishment of vegetation on bare ground; replacement of grass by sedge; and replacement of herbaceous vegetation by riparian shrubs depending on the site (Hosten 2007; Hosten and Whitridge 2007).

Effects to Aquatic T & E and Special Status Aquatic Species, and their habitat include:

Jenny Creek supports populations of native Jenny Creek redband trout (*Oncorhynchus mykiss*), considered “sensitive” on the Final Interagency Special Status/Sensitive Species List (April 19, 2007). In the Klamath River system, Southern Oregon/Northern California (SONC) coho salmon (*Oncorhynchus kisutch*), a “threatened” species under the Endangered Species Act (ESA) are restricted to habitat below Irongate Reservoir located approximately nine miles downstream of the Jenny Creek Allotment. Jenny Creek suckers (*Catostomus rimiculus*), and speckled dace (*Rhinycthyes osculus*) are other native species known to occur in the system.

No effect to coho salmon or Coho Critical Habitat (CCH) as the nearest CCH is nine miles downstream, below a reservoir that acts as a sediment trap in all but the worst flood conditions.

Increases in fine sediment would occur where cows have direct access to streams. These fine sediment increases would negatively impact Jenny Creek suckers, Jenny Creek redband trout, and other aquatic organisms in this system that has existing high levels of fine sediment and a limited capacity to move sediment naturally as the reservoir system moderates the magnitude and intensity of winter flushing flows.

This area is known to support populations of Special Status aquatic mollusks though they have not been documented within the allotment boundary. A study examining patterns of aquatic macro-invertebrates in streamside riparian influence found that the combined influence of road density, logging, and livestock reduced aquatic macroinvertebrate richness (Barr et al in prep.). Studies in seeps and springs found that high diversity and species indicative of clean water were compatible with low to moderate ungulate use (Dinger et al. 2007). Moderate to heavy use as measured by average utilization has

resulted in a loss of intolerant species across the monument. A strong geographic influence suggests that a subset of springs throughout the monument need to be conserved to maintain beta diversity. There were no statistically significant associations of aquatic mollusk richness with livestock utilization (Dinger et al. 2007). *Fluminicola* sp. have not been observed within the allotment boundary however, there are known to occur in the Jenny Creek and Spring Creek drainages and the allotment is adjacent to an endemic hot spot (Frest and Johannes 2005).

/s/ John Gerritsma

7/8/08

John Gerritsma
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Date