

**Standards for Rangeland Health  
and  
Guidelines for Livestock Grazing Management  
for  
Public Lands in Oregon and Washington**

**UPDATE for  
Coyote-Colvin Allotment (#00517)**

**September 2016**

The Coyote-Colvin Allotment (#00517) is located 3 miles north of Plush, Oregon. Coyote-Colvin Allotment encompasses approximately 128,467 acres. The allotment is divided into seven pastures: East Coyote Hills, West Coyote Hills, Twin Lakes, Windy Hollow Seeding/Rabbit Creek, Colvin Timbers, Priday Riparian, and Aroga Moth Seeding. The Coyote-Colvin Allotment has been grazed under a rest rotational grazing system for over 20 years. However, some pastures of the allotment have received periodic rest, and others have received several years of consistent use. The deviation from the standard rest rotation system has mostly been because of the lack of reliable livestock water. Livestock water is limited to waterholes, springs, and reservoirs in many pastures of the allotment, and often lack water on dry years (refer to Table 4 in Appendix A).

The original Coyote-Colvin Allotment Rangeland Health Assessment (RHA) was conducted in 2000 and the majority of the allotment met all five standards. This assessment is an update to the original RHA. A summary of the 2000 RHA and assessment update are presented in the Table 1.

**Table 1. Summary of Rangeland Health Assessments for the Coyote Colvin Allotment #00517**

| Standard                                                                                                                                                                                           | 2016 Assessment | Comments 2016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2000 Assessment | Comments 2000                                                                                                                                                                                                                                                                                                             |
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| <p><b>1. Watershed Function – Uplands</b></p> <p>Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform</p> | Not Met         | <p>This standard is not being met for the Aroga Moth Pasture of the Coyote-Colvin Allotment. Plant cover, as recorded from trend studies, is marginally capturing and storing water. Litter has decreased in the trend plot read within the pasture, and has decreased the ability to intercept raindrop impaction. This standard is not being met due to the downward trend within the pasture, and is attributed to the lack of rest from livestock grazing, cheatgrass, and age of the seeding.</p> | Met             | <p>This standard was met in 2000. Grazing in the allotment had been managed as a multi-pasture rest rotation system. Upland soils and vegetative resources in the allotment appeared to be functioning properly given the amount and distribution of ground cover based on several data analyses utilized in the RHA.</p> |
|                                                                                                                                                                                                    | Met             | <p>This standard is being met for the uplands in the majority of the allotment. Trend data in this area shows plants are vigorous and are able to complete their reproductive cycle following grazing use each fall and winter. Roots of perennial plants occupy the soil profile, and are stabilizing the soil preventing erosion. Organic matter in the form of plant litter is</p>                                                                                                                  |                 |                                                                                                                                                                                                                                                                                                                           |

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|                                                                                                                                                                            |                | <p>accumulating and being incorporated into the soil, intercepting raindrop impactation and retaining moisture. Percent cover and percent bare ground is stable within the allotment, and is within the range of variability expected for the site.</p> <p>For more detail, please refer to the discussion under standard one below.</p>                                                                                                                                                                                            |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p><b>2. Watershed Function Riparian/Wetland Areas</b></p> <p>Wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.</p> | <p>Not Met</p> | <p>This standard is not being met in the West Coyote Hills Pasture. Recent field reconnaissance and photo analysis led to the determination that meadow/riparian/wetland areas (approximately 122 acres of 176 acres) in West Coyote Hills Pasture are at risk, and that their condition is recently trending downward. The failure to receive rest every other year as prescribed, combined with heavy utilization in 2015, has recently led to meadow/riparian/wetland areas throughout the pasture not meeting standard two.</p> | <p>Not Met</p> | <p>While the existing conditions were largely a result of past grazing practices and channel manipulation, current management of livestock was resulting in significant progress towards meeting the standard. Most streams are intermittent. Some have short perennial reaches; Colvin, Clover, and Upper Snyder Creeks were found to be incapable of meeting this standard because of historic livestock use coupled with extreme disturbance from water diversions. Lotic PFC inventories were not completed on these streams because past channelizing and diversion of Colvin and Upper Snyder Creeks and tributaries to Clover Creek would likely have prevented these streams from being in PFC.</p> <p>Lentic PFC was completed on 720 acres. All areas were in PFC except the 35 acres around Colvin Lake, which was functioning at risk due</p> |
|                                                                                                                                                                            | <p>Met</p>     | <p>This standard is being met in the rest of the area analyzed.</p> <p>(For more detail, please refer to the discussion under standard two below).</p>                                                                                                                                                                                                                                                                                                                                                                              |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|                                                                                                                                                                                                                                  |                |                                                                                                                                                                                                                                                                                                         |                                              | <p>to livestock trampling and grazing. Colvin Lake is one of the two main water sources in the Colvin Timber Pasture. The current grazing management prescription implemented in 1998 (alternate years of rest) was making progress towards PFC and, therefore, no change in livestock management was warranted at that time.</p> <p>The springs and streams in the Colvin Riparian Pasture had historically received heavy livestock use because of annual late season grazing. In 1998, a new grazing system was implemented that prescribed spring grazing only and limited use on woody riparian species. This system was designed to improve riparian conditions in this pasture.</p> <p>Most of the springs in the allotment, especially in the West Coyote Hills Pasture, had already been fenced to exclude livestock and had improved in condition and function.</p> |
| <p><b>3. Ecological Processes</b></p> <p>Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling,</p> | <p>Not Met</p> | <p>This standard is not being met for the Aroga Moth Seeding Pasture. This pasture was seeded to crested wheatgrass in 1965 after the aroga moth killed the sagebrush. The long-term monitoring plot within the pasture lacks diversity of community structure including grasses, forbs, and shrubs</p> | <p>Not Met on a portion of the Allotment</p> | <p>This standard was being met in 2000. Monitoring data indicated an upward or stable trend in vegetative communities across the allotment. The majority of the allotment was in a mid-seral stage.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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| <p>energy flow, and hydrologic cycle.</p> | <p>Met</p> | <p>appropriate for the site. The lack of diversity limits the capture and storage of energy occurring throughout the season. Nutrient cycling is limited by lack of litter accumulation and plant productivity. This pasture has a downward trend, and is not meeting this standard; which is attributed to the lack of rest from livestock grazing, cheatgrass, and age of the seeding.</p> <p>This standard is being met for the remainder of Coyote-Colvin Allotment. The long-term trend plots show an adequate diversity of community structure including grasses, forbs, and shrubs appropriate for the sites. This diversity ensures that the capture and storage of energy occurs throughout most of the season. Nutrient cycling is evident by litter accumulation and overall plant productivity.</p> <p>Non-native invasive winter annual grass species are known to exist within the allotment. Whitetop has also been documented on both private and BLM lands within the Snyder creek drainage. These infestations are not currently at high enough populations to cause effects to ecological processes. However, if they go uncontrolled they will begin to cause a decline in plant diversity throughout the allotment.</p> <p>For a more detail, please refer to the discussion under standard three below.</p> |  |  |
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| <p><b>4. Water Quality</b></p> <p>Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.</p>                                                                                                                                    | <p>Not Applicable</p> | <p>There are no streams listed as Water Quality Impaired in the Allotment. There are no streams that provide perennial flow over a long enough reach to require monitoring for temperature, the primary parameter for listing as Water Quality Impaired in this area.</p> <p>There are no known groundwater wells within this allotment.</p> | <p>Met</p> | <p>There were no streams listed as Water Quality Impaired in the Allotment. There were no streams that provide perennial flow over a long enough reach to monitor for temperature, the primary parameter for listing as Water Quality Impaired in this area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p><b>5. Native, T/E, and Locally Important Species</b></p> <p>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.</p> | <p>Met</p>            | <p>This standard is met in 2015. Wildlife species within the area is described below under Standard 5.</p> <p>There are three BLM special status plant species located within the allotment: <i>Pogogyne floribunda</i> (mesamint), <i>Rorippa columbiae</i> (Columbia yellowcress), and <i>Eriogonum prociuum</i> (prostate buckwheat).</p> | <p>Met</p> | <p>There were no known resource conflicts identified between current livestock grazing management activities and existing wildlife species (including special status species) or their habitat within the allotment. For these reasons, this standard was met. (See discussion of Standard 5 below for more details).</p> <p>This standard was not being met prior to 1998 for special status plants. However, modification of the summer grazing in 1998 to alternate years rest has provided significant progress toward attainment of the standard.</p> <p>The aspen communities represented less than 1% of the allotment acreage, and were under encroachment from western juniper, mahogany, fir, and pine with some areas completely occupied. The 2000 RHA stated that the existing condition of the aspen plant community is a</p> |

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|  |  |  |  | <p>product of past events and current livestock management is not a factor in the expansion of juniper or decline of the aspen.</p> <p>The Warner sucker is listed as a Threatened Species. Snyder and Honey Creek have been excluded from grazing since 1980. Therefore, there was no occupied habitat that was grazed within the allotment</p> |
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**STANDARD 1 – Watershed Function Uplands - Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.**

*Met: The majority of the Coyote-Colvin Allotment*

The majority of the Coyote-Colvin Allotment has stable to upward trends, and are meeting this standard. This is evident by a combination of pace 180° transects and photo trend monitoring. Observed apparent trend (OAT) data was also collected at the trend sites. The monitoring methods that are quantitative in nature are OAT and the pace 180° transects. These two studies measure attributes that are related to permeability and soil stability or erosion potential. This includes perennial plant cover, amount of bare ground, biological crust cover, seedling establishment, litter, and plant community composition. Based on the quantitative and qualitative data (photo monitoring) described above, the majority of the long-term monitoring sites were found to have stable to upward trends (refer to monitoring summary in Appendix A for a discussion at each trend site).

The North Warner Hazardous Fuels Reduction Project (CX-OR-010-2007-02) and the Colvin Timbers and Fort Rock Fringe EA (EA-OR-010-2001-03) are two fuels projects that have been conducted within the Coyote-Colvin Allotment. Under the North Warner Hazardous Fuels Reduction Project, juniper trees were cut and burned and existing stands of ponderosa Pine thinned, to reduce hazardous fuel loadings and promote fire resilient plant communities within the project area. The primary purpose of the Colvin Timbers and Fort Rock Fringe EA, was to reintroduce fire as an ecological process and promote a sustainable system within the pine forest/sagebrush steppe of Colvin Timbers. A secondary purpose was to implement a fuels treatment plan that will systematically reduce fuel loading, which will ultimately lead to a decrease in the potential for catastrophic damage from wild fire. Under the Colvin Timbers and Fort Rock Fringe EA, Colvin Timbers were hand piled, limbed, and included severing some trees and shrubs. This was coupled with pre-treatment (pulling back adjacent fuels from fire susceptible species), then followed low intensity burns/understory burns.

Although treatment has been conducted in the Coyote-Colvin Allotment in the past, there is still a need to treat areas under juniper/pine expansion. On field trips in 2015, the ID Team observed that despite the past treatment within the Colvin Timbers stand, considerable mortality has occurred in recent years due to drought and bug kill. The Colvin Timbers stand is currently in substantial wildfire risk. Also, The North Warner Hazardous fuels reduction project CX did not include all areas of juniper/pine expansion within the allotments needing treatment, as seen by the ID Team. In addition, areas treated under the CX would likely need revisited to treat young juniper tree. These areas are currently meeting this standard, and expansion is not attributed to current livestock grazing. However, if expansion continues over time, a loss of understory would occur and would increase the potential for soil erosion. The areas with juniper and/or pine expansion would not continue to meet this standard in the long-term if these areas are not treated.

As described above, the Coyote-Colvin Allotment has been grazed under a rest rotational grazing system for over 20 years. However, some pastures of the allotment have received periodic rest, and others have received several years of consistent use. The deviation from the standard rest rotation system was mostly because of livestock water availability. Livestock water is limited to waterholes, springs, and reservoirs in many pastures of the allotment, and often lack water on dry years (refer to Table 4 in Appendix A). Information within Table 4 includes the years of grazing, actual use AUMs by pasture and utilization levels for the allotment. For the majority of the allotment, rest has provided grass species an opportunity to complete life cycles. The majority of the long-term monitoring sites within the allotment are stable to upward. Thus, roots of perennial plants are occupying the soil profile, and are stabilizing the soil preventing erosion. Plant cover is adequate to capture, store, and safely release moisture associated with normal precipitation events. Percent bare ground has remained stable or decreased in the trend plots read within the allotment. Litter has adequately intercepted raindrop impaction, and retained moisture. Therefore, the majority of the Coyote-Colvin allotment is meeting this standard. The monitoring summary is attached in Appendix A and provides a more detailed discussion at each trend site.

Not Met: *Aroga Moth Pasture of the Coyote-Colvin Allotment*

The sagebrush in the Aroga Moth Pasture of the Coyote-Colvin Allotment was killed by the aroga moth (*Aroga websteri*) in 1964-1965. This area was drill seeded to crested wheatgrass in 1965. The Aroga Moth Pasture is in a downward trend, indicated by the long-term monitoring plot within the pasture. This pasture is not meeting this standard, and this is attributed to the lack of rest from livestock grazing, cheatgrass, and age of the seeding. Roots of perennial herbaceous plants are occupying the soil profile, but have weakened root systems due to a lack of consistent (rest one out of two or one of three years) rest from livestock grazing. Roots are marginally stabilizing the soil providing for the possibility of soil erosion. Plant cover is marginally capturing, storing, and safely releasing moisture associated with normal precipitation events. Percent litter has decreased in 2014, and decreased the ability to intercept raindrop impaction and retain moisture. The monitoring summary is attached in Appendix A and provides more detailed discussion at each trend site.

*Recommendations*

*Aroga Moth Pasture*

Although the Coyote-Colvin Allotment has generally been managed under a rest rotation grazing management system, continuing to incorporate periodic growing season rest and deferment is recommended for the Aroga Moth Pasture, following two years of rest (2016 and 2017), to allow plants to complete their life cycles every other year or every third year. Ensuring periodic rest for the Aroga



Moth Pasture is essential to maintain the perennial grass component within the pasture, and would make significant progress towards meeting the Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.

To continue to meet Standard 1, treatment of areas with juniper and/or pine expansion is recommend within the Coyote-Colvin Allotment.

**STANDARD 2 – Watershed Function Riparian/Wetland Areas – Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform.**

*Met: The majority of the Coyote-Colvin Allotment*

Existing conditions are primarily a result of past channel manipulation and diversion, and secondarily, past grazing (prior to 1998). The overall capability and potential of Colvin, Clover, and Upper Snyder Creeks has been reduced from historic conditions because of extreme disturbance from water diversions. Lotic PFC site inventories have not been completed on these streams because the diversions have removed most of the water from the system, resulting in stream channels largely incapable of supporting riparian vegetation. These streams are generally in an upward trend and have been making significant progress toward meeting this standard since at least 2000. Although these streams have reduced potential and capability they are now considered to be minimally meeting this standard.

Field reconnaissance was done to get an accurate inventory of lentic riparian/wetland areas in the Coyote-Colvin Allotment in 2014-15. As a result, lentic PFC was completed on approximately 348 acres. All areas (Mule Lake, Binkey Lake, Foley Lake, Twin Lakes, Featherbed Lake, Fitzgerald Reservoir, Colvin Lake, and Priday Lake) were determined to be in PFC, with the exception of Colvin Lake (28 acres). Colvin Lake was rated as Functional at Risk with an Upward Trend. Colvin Lake is one of the two main water sources in the Colvin Timbers Pasture. The primary concern at Colvin Lake was active erosion along the northwest shoreline, although conditions appear to have improved since the 1998 survey. The current grazing management prescription implemented in 1998, of alternate year's rest, when adhered to, makes progress towards PFC. Strict adherence to the rest rotation system, with pastures receiving rest every other year, is likely required to make significant progress towards desired conditions.

The springs and streams in the Priday Riparian Pasture historically (prior to 1998) received heavy use from livestock because of the annual late season grazing system. In 1998, a new grazing system was implemented that prescribed spring grazing only and limited use on woody riparian species. This system has led to some improvement and mostly stable riparian conditions in the pasture. However, the pasture also would benefit from occasional rest, which would lead to an upward trend.

Many of the springs in the allotment have been fenced to exclude livestock and have improved in condition. Field reconnaissance in 2015 found recent juniper encroachment in some riparian exclosures to be affecting aspen stands and riparian vegetation. Strict adherence to the prescribed rest rotation system, would improve meadow/riparian/wetland conditions outside of exclosures throughout the allotment.

*Not Met: Approximately 122 acres of meadow/riparian/wetland areas in the West Coyote Hills Pasture of the Coyote-Colvin Allotment*

Recent field reconnaissance and photo analysis has led to the determination that approximately 122 BLM administered acres of meadow/riparian/wetland areas, outside existing exclosures, in West Coyote Hills Pasture are at risk, and that their condition is recently trending downward. In addition, some meadow systems in the pasture contain numerous headcuts, thought to be caused by heavy, localized grazing. Headcuts, particularly when combined with the removal of vegetation, greatly increase the risk of erosion and instability. The failure to receive rest every other year in recent years as prescribed, combined with heavy utilization on meadow/riparian/wetland areas in 2015, has led to meadow/riparian/wetland areas throughout the pasture not currently meeting standard two.

### Recommendations

#### *West Coyote Hills Pasture*

It is recommended that the West Coyote Hills Pasture receive at least 2 years of rest from grazing in order to recover from the lack of rest in recent years (rested one time in last seven years), and heavy utilization on meadow/riparian/wetland areas in 2015. It is also strongly recommended that the pasture receives rest every other year moving forward.

Additionally, we recommend treatment of invasive juniper in affected riparian exclosures.

### **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 hydrologic cycle.**

#### Met: *The majority of the Coyote-Colvin Allotment*

Actual use and utilization data has been collected in these allotments for over 10 years. Tables 4 and 5 in the monitoring summary (Appendix A) show the Actual Use and Utilization data has been collected for each pasture for approximately 20 years. The target utilization (50%) levels in the Coyote-Colvin were exceeded four times in the last 10 years in a total of seven pastures. AUMs within the allotments have been within the authorized AUMs for each allotment over the last 10 years.

As described under Standard 1, two fuels treatments have been conducted in the allotments in the recent past. However, during field trips in 2015, the ID team observed areas of juniper expansion that need treatment throughout the allotments. The ID team also observed that "Colvin Timbers," the ponderosa pine stand, has had experienced considerable mortality in recent years due to drought and bug kill. The Colvin Timbers stand is currently in substantial wildfire risk. All areas with juniper expansion are currently meeting Standard 3, and expansion is not attributed to current livestock grazing. However, if expansion continues over time, a loss of understory would occur and would decrease the ability of the site/area to capture, store, and safely release moisture associated with normal precipitation events. Percent litter would decrease and decrease the ability to intercept raindrop impaction. The areas with juniper and/or pine expansion would not continue to meet this standard in the long-term if these areas are not treated.

As stated under Standard 1 above, the Coyote-Colvin Allotment has been grazed under a rest rotational grazing system for over 20 years. However, some pastures have received periodic rest and others have received several years of consistent use. The deviation from the standard rest rotation system was mostly because of livestock water availability. Livestock water is limited to waterholes, springs, and reservoirs in many pastures of the allotment, and is often lacking in dry years.

For the majority of the allotment, periodic rest has provided grass species an opportunity to complete life cycles. The majority of the long-term monitoring sites within the allotment indicate a stable to upward trend. The long-term trend data shows adequate diversity of community structure including grasses, forbs, and shrubs appropriate for the sites. This diversity ensures that the capture and storage of energy occurs throughout most of the season. Nutrient cycling is evident by litter accumulation and overall plant productivity.

#### Not Met: Aroga Moth Pasture

However, the Aroga Moth Pasture of the Coyote-Colvin Allotment is in a downward trend, as indicated by long-term monitoring study within the pasture. This pasture is not meeting this standard, and this is attributed to the lack of rest from livestock grazing, cheatgrass, and age of the seeding. Roots of perennial herbaceous plants are occupying the soil profile, but have weakened root systems due to a lack of consistent (rest one out of two or one of three years) rest from livestock grazing. Roots are marginally stabilizing the soil providing for the possibility of soil erosion. Plant cover is marginally capturing, storing, and safely releasing moisture associated with normal precipitation events. Percent litter has decreased in 2014, and decreased the ability to intercept raindrop impaction, and retain moisture (see Appendix A for more detailed discussion at each trend plot).

#### Weeds

During the 2014 and 2015 field seasons detailed surveys took place in the allotment, annual grasses were found scattered across the Twin Lakes Pasture. Cheatgrass (*Bromus tectorum*) was found scattered throughout the allotment, however the bigger concern is the recently discovered invasions of Medusahead Rye (*Taeniatherum caput-medusae*) and North African Grass (*Ventenata dubia*). The Medusahead infestations are estimated to cover eight gross acres with a net infestation of approximately one half acre. Only five sites of North Africa Grass have been documented with less than a half-acre (gross) infested. Currently these annual grasses are not out competing the native vegetation; however they have potential to quickly spread across the entire allotment if they go unmanaged.

In the upland areas of the allotment, the invasive plants (noxious weeds) present are mainly in disturbed areas (main road, ditches and waterholes); which is consistent with the past Range Land Health Assessments. The remaining noxious weeds are found within draws, drainages and riparian areas. These plants include Hoary cress (*Lepidium draba*) (Miners Draw), Mediterranean sage (*Salvia aethiopsis*) (Friday spring, Mule Lake), Canada thistle (*Cirsium arvense*) and Bull thistle (*Cirsium vulgare*) (springs, creeks, waterholes). Many of the drainages, such as Windy Hallow Draw Mapping, Cooper Draw, and Mulkey Wells Draw, contain large infestations of Canada thistle persisting throughout.

#### Recommendations

##### Aroga Moth Pasture

Continuing to incorporate periodic growing season rest and deferment is recommended for the Aroga Moth Pasture, following two years of rest (2016 and 2017), to allow plants to complete their life cycles every other year or every third year. Insuring periodic rest for the Aroga Moth Pasture is essential to maintain the perennial grass component within the pasture, and would make significant progress towards meeting the Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.

To continue to meet Standard 3, treatment of areas with juniper expansion is recommended within the Coyote-Colvin Allotment.

The medusahead on public lands will be managed through the most recent invasive species management plan, and the allotment will continue to be monitored for other non-native invasive species.

**STANDARD 4: Water Quality – Surface water and groundwater quality, influenced by agency actions, complies with State water quality standards.**

Not Applicable:

There are no streams listed as Water Quality Impaired in the Allotment. There are no streams that provide perennial flow over a long enough reach to monitor for temperature, the primary factor for listing as Water Quality Impaired in this 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.**

Met: Entire Coyote-Colvin Allotment

Special Status Plants

Three BLM special status plant species are located within this allotment. *Pogogyne floribunda* (mesamint) and *Rorippa columbica* (Columbia yellowcress) occupy dry lakebeds scattered along the high plateau east of Abert Rim. Currently population numbers are low, but this is attributed to the recent drought. Trend monitoring has been conducted periodically since 1980 and population levels have fluctuated widely in response to precipitation patterns. Additionally, the single population of mesamint and the Foley Lake population of Columbia yellowcress are protected within fenced exclosures. Several populations of *Eriogonum procerum* (prostate buckwheat) occur in the Coyote Hills at sites with barren volcanic gravels. Visits to these sites during the 2014 field season, showed stable population numbers and did not indicate any disturbances or threats to the sites.

Wildlife/Wildlife Habitat

The allotment contains an appropriate assemblage of wildlife species and wildlife habitat expected for the shrub-steppe ecosystem. Species diversity may be somewhat higher due to its juxtaposition with the Ponderosa pine forest transitional zone along the southwestern edge of the allotment providing additional habitat diversity.

Special status wildlife species or their habitats potentially present within this allotment may include the bald eagle (*Haliaeetus leucocephalus*), ferruginous hawk (*Buteo regalis*), peregrine falcon (*Falco peregrinus*), burrowing owl (*Speotyto cunicularia*), sage-grouse (*Centrocercus urophasianus*), Townsends big-eared bat (*Corynorhinus townsendii*), fringed bat (*Myotis thysanodes*), pallid bat (*Antrozous pallidus*), spotted bat (*Euderma maculatum*), kit fox (*Vulpes macrotis*), pygmy rabbit (*Brachylagus idahoensis*), and bighorn sheep (*Ovis canadensis californiana*).

The allotment falls within the Oregon Department of Fish and Wildlife's Warner big game habitat management unit. The mule deer and pronghorn antelope populations are relatively stable within this unit. Habitat quantity and quality do not appear to be limiting big game population size or health within the unit. The allotments comprise a small percentage of the units and provide habitat capable of supporting mule deer, pronghorn antelope, elk and California bighorn sheep. Elk habitat occurs in the southwestern portion of the allotment within the Colvin Timbers area and the population appears to be relatively stable within this unit. California bighorn sheep habitat occurs within the western portion of the allotment and comprises approximately 32% (38,354 acres). California bighorns generally do not compete for forage with domestic cattle due to difference in habitat use patterns. The only limitations in bighorn habitat appear to be limited perennial water sites and unrestricted movement to and from these water sources. There are currently 1,105 AUMs allocated for mule deer, pronghorn antelope, California Bighorn sheep, and other wildlife species within the allotments (BLM, 2015).

Migratory birds use all habitat types in the allotment for nesting, foraging, and resting as they pass through on their yearly migrations. There has been no formal monitoring of migratory birds on the allotment. There are no known resource conflicts for these species.

The Coyote-Colvin Allotment contains greater sage-grouse Priority Habitat Management Area (PHMA) in Sagebrush Focal Area (SFA), PHMA (not within SFA), and General Habitat Management Area (GHMA); approximately 100,737 (85%) acres in PHMA in SFA, approximately 354 (0.3%) acres in PHMA, and approximately 9,160 (7.7%) acres in GHMA. There are 22 identified leks within the allotment, 10 of which have a conservation status of "occupied pending", with the remaining 12 "unoccupied pending" status. Habitat Assessment Framework (HAF) habitat indicators were collected during the 2013 field season as well lekking habitat on 5 of the 22 leks within the allotment.

Lekking habitat analysis of 5 leks (LF1 LA1145-01, Rabbit Creek North #3 LA1177-02, Rabbit Creek North #1 LA1177-01, Mule Lake East #1 LA1183-01, and South Miners Draw La1129-01) completed in the spring of 2016 which consists of assessing 3 habitat indicators associated with leks; availability of sage brush cover, proximity of detrimental land uses, and proximity of trees or other tall structures. All five of the surveyed leks had protective sagebrush cover within 100m of the lek site. Detrimental land uses (roads, fences, powerlines) are within line sight of all five leks and are uncommon or few within 3km of lek sites. Trees or other tall structures are within line sight of all 5 leks and none to uncommon or scattered within 3km of lek sites (LF1 LA1145-01, Rabbit Creek North #3 LA1177-02, Rabbit Creek North #1 LA1177-01, and Mule Lake East #1 LA1183-01).

Through this analysis, 4 of the leks fell into the suitable category for lekking habitat. While these 4 leks have detrimental land uses, trees or other tall structures (roads, fences, and/or powerlines) within line site of leks, they are uncommon, scattered or few within 3km and are not influencing lekking behavior and the use of adjacent seasonal habitats (winter or breeding and nesting). South Miners Draw lek fell into the unsuitable category in part due to the Wyoming Sagebrush dominated plant community with a cheatgrass understory, lack of sage grouse preferred forbs, close proximity of roads and agricultural fields, and nearby residential buildings. Rabbit Creek North #1, Rabbit Creek North #3 and Mule Lake East #1 have a conservation status of occupied. LF1 and South Miners Draw have a conservation status of unoccupied pending. LF1 was first surveyed in 2002 and subsequent visits have not confirmed displaying sage grouse at lek site; this may indicate that LF1 in 2002 was a satellite lek and may have been a displaced/satellite lek during that year. In 2016, field observations support the movement of sage grouse towards LF1 when displaced from Mule Lake East #1.

Sage-grouse select seasonal habitats (third-order habitats) within their home ranges, including breeding, summer, and winter habitats. For many wildlife species with large home ranges, including sage-grouse, seasonal life requisite needs differ, and movement is required to meet seasonal shelter and food needs. Sage-grouse are generally traditional in their seasonal movement patterns. Some sage-grouse may move long distances (>30km) from breeding to summer and from summer to winter habitats. Sage-grouse diets shift from insects and forbs during the breeding and summer seasons to sagebrush during winter.

HAF assessments at the third order were compiled from field collected vegetation measurements at the fourth order, which involves collecting field data on composition and structure of habitat within a seasonal use area. For the HAF assessment, a key objective is that cover averages fall within the appropriate suitability class. Line intercept method was employed to measure sagebrush cover and height, perennial grass cover and height, perennial forb cover and height, and preferred forb availability.

HAF data represents third order (fine-scale) habitat suitability and indicators. Sage-grouse select seasonal habitats (third order) within their home ranges: breeding, summer/late brood rearing, and winter periods. At this level (third order) habitat descriptions (breeding, summer, and winter) indicate approximately 71% (84,197 acres) of the allotment is suitable breeding habitat, approximately 14% (16,208 acres) are marginal breeding habitat, and approximately 15% (17,881 acres) are unsuitable breeding habitat.

Approximately 56% (65,924 acres) suitable summer-brood rearing habitat, approximately 29% (34,177 acres) of marginal summer-brood rearing, and approximately 15% (18,183 acres) of unsuitable summer-brood rearing habitat.

Approximately 42% (48,101 acres) suitable winter habitat, approximately 13% (14,895 acres) marginal winter habitat, and approximately 45% (55,289 acres) unsuitable winter habitat. In addition, there are portions of the allotment that do not support sage-grouse seasonal habitat due to plant structure characteristics or because of edaphic conditions, and steep slopes. There are no known resource conflicts for this species.

As stated in standard 2 above, approximately 122 of 176 acres of the meadow/riparian/wetland areas within the West Coyote Hills Pasture are not met. Standard 2 is not met within the West Coyote Hills Pasture due to lack of rest every other year combined with heavy utilization on these areas in 2015. Sage grouse depend on meadow/riparian/wetlands as well as forb rich, low sagebrush communities adjacent to big sagebrush communities for brood-rearing habitat. The meadow/riparian/wetlands are at risk but do provide adequate forb sagebrush communities within 100m of the areas. However, if no change in livestock grazing management is made, these areas would likely continue their downward trend, continuing to negatively impact sage-grouse brood-rearing habitat.

Recent field reconnaissance and photo analysis has led to the determination that approximately 122 BLM administered acres of meadow/riparian/wetland areas, outside existing exclosures, in West Coyote Hills Pasture are at risk, and that their condition is recently trending downward. In addition, some meadow systems in the pasture contain numerous headcuts, thought to be caused by heavy, localized grazing. Headcuts, particularly when combined with the removal of vegetation, greatly increase the risk of erosion and instability. The failure to receive rest every other year in recent years as prescribed, combined with heavy utilization on meadow/riparian/wetland areas in 2015, has led to meadow/riparian/wetland areas throughout the pasture not currently meeting standard two.

Fires occurred in the Aroga Moth Seeding (1981), East Coyote Hills, West Coyote Hills, and Aroga Moth Seeding (1984), Windy Hollow Seeding (1985), and Twin Lakes pastures (2000). These wild land fires coincide with the majority of unsuitable seasonal habitat for all life requisites within the allotment.

Kit fox and pygmy rabbits, both BLM special status species, are also known to occur within the Lakeview Resource Area. The potential for the presence of kit foxes is very low as the allotments lie outside of the northern range of the kit fox. In the northern portion of the allotment Pygmy rabbit burrows have been identified along with approximately 1,034 acres of vegetation and deep soils capable of supporting pygmy rabbit habitat. There are no known resource conflicts for this species.

Peregrine falcons have been observed in the general area, possibly due to releases from the Summer Lake hack site to the north and they may be an occasional visitor to the area. Nest sites have been identified within the area surrounding the allotment where suitable cliff type habitat exists; however, no recent nesting activity has been documented within the allotment. There are no known resource conflicts for these species.

Golden eagles (BOC species) have been seen within the area foraging on small mammals. There are two known golden eagle nests or nesting habitat within the allotment. There are no known resource conflicts for this species.

Four Bureau Sensitive Species of bats are known to occur within the Lakeview Resource Area (fringed myotis, pallid bat, spotted bat, and the Townsend's big-eared bat). Roosting and wintering (hibernacula) habitat for these species is limited or lacking throughout the allotment. Use of the area by these species is likely limited to foraging activities. There are no known resource conflicts for this species.

As noted in the original assessment 2000, this allotment also provides habitat capable of supporting many common mammals including jackrabbits, cottontails, coyotes, ground squirrels, chipmunks, marmots, bobcats, mountain lions, badgers, bats, and other common shrub-steppe mammal species, as well as, amphibian and reptile species such as fence lizards, sagebrush lizards, gopher snakes, rattlesnakes, horned-lizards, and other common shrub-steppe species. There are no known resource conflicts for these species.

There are no known resource conflicts between current livestock grazing management activities and habitat for peregrine falcons, bald eagles, ferruginous hawks, burrowing owls, golden eagles, bat species, kit foxes, pygmy rabbits, big horn sheep, pronghorn antelope, elk, or mule deer.

Fuels treatments were carried out in the Allotments, as described under Standard 1 above. These treatments improved habitat conditions for wildlife. Additional juniper removal across the allotment, specifically the southern portion (south of Rabbit Creek) of the allotment would increase the resistance of sage grouse habitat to invasive annual grasses and the resiliency of habitat to disturbances such as fire.

For the reasons stated above, this standard is being met for wildlife species (including special status species) and their habitat within this allotment.

## Recommendations

To continue to meet Standard 1, 3, and 5 treatments of areas with juniper expansion is recommend within the Coyote-Colvin Allotment.

**Table 3. ID Team Members**

| Name            | Title                                           |
|-----------------|-------------------------------------------------|
| Jayna Ferrell   | Rangeland Management Specialist                 |
| Theresa Romasko | Assistant Field Manager                         |
| Grace Haskins   | Weed Management Specialist/ Botanist            |
| Jimmy Leal      | Fisheries Biologist                             |
| Jami Ludwig     | Assistant Field Manager                         |
| John Owens      | Wildlife Biologist                              |
| Paul Whitman    | Planning and Environmental Coordinator          |
| Jay Larson      | Assistant Planning and Environmental Specialist |

## Guidelines for Livestock Management

Existing grazing management practices and levels of grazing use on the majority of the Coyote-Colvin Allotment is consistent with the Guidelines for Livestock Grazing Management (August 12, 1997).

Existing grazing management practices and levels of grazing use on the meadow/riparian/wetland areas of the West Coyote Hills and the uplands of the Aroga Moth Pastures of the Coyote-Colvin Allotment are not consistent with the Guidelines for Livestock Grazing Management (August 12, 1997). These Pastures have not received consistent rest under the rest rotation grazing system to provide conditions that are capable of meeting applicable standards.

## 2015 Determination

(X) Existing grazing management practices on the meadow/riparian/wetland areas (outside of existing enclosures) of the West Coyote Hills and uplands of the Aroga Moth Pastures of the Coyote-Colvin Allotment will require modification or change prior to the next grazing season to promote achievement of, or significant progress towards the Oregon Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.

(X) Existing grazing management practices on the remainder of the Coyote-Colvin Allotment promote achievement of, or significant progress towards, meeting the Oregon Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.

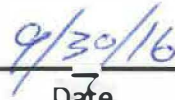
## Recommendation

It is recommended that the West Coyote Hills Pasture receive at least 2 years of rest from grazing in order to recover from the lack of rest in recent years (rested one time in last seven years), and heavy grazing on approximately 122 acres of meadow/riparian/wetland areas in 2015. It is also strongly recommended that the pasture receives rest every other year moving forward.

It is recommended that the Aroga Moth Pasture receive 2 years of rest from livestock grazing, and rest every other or every third year moving forward.



It is recommended that the juniper expansion be treated within the Coyote-Colvin Allotments. It is also recommended that juniper along with applicable pine (bug kill trees, etc.) be treated within the Colvin Timbers stand within the Coyote-Colvin Allotments.



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J. Todd Forbes  
Field Manager Lakeview  
Resource Area

Date

**Appendix A – Monitoring Summaries**  
**Coyote-Colvin Allotment Monitoring Summary**

**Table 4. Coyote-Colvin Allotment (#00517) Actual Use and Utilization Data by Year**

| Year        | East Coyote Hills AUMs | % Utilization (E. Coyote Hills) | West Coyote Hills | % Utilization (W. Coyote Hills) | Twin Lakes AUMs | % Utilization (Twin Lakes) | Windy Hollow/Rabbit Creek | % Utilization (Windy Hollow/Rabbit Creek) | Colvin Timbers   | % Utilization (Colvin Timbers) | Priday Riparian | % Utilization (Priday Riparian) | Aroga Moth | % Utilization (Aroga Moth) | Total AUMs |
|-------------|------------------------|---------------------------------|-------------------|---------------------------------|-----------------|----------------------------|---------------------------|-------------------------------------------|------------------|--------------------------------|-----------------|---------------------------------|------------|----------------------------|------------|
| 2015        | 189                    | 22                              | 1232              | 60                              | REST            |                            | 478                       | 35                                        | Rest             |                                | 289             | 44                              | 87         |                            | 2274       |
| 2014        | 412                    | 14                              | REST              |                                 | REST            |                            | 412                       | 44                                        | 1,121            | 58                             | 377             | 43                              | Rest       |                            | 2322       |
| 2013        | 1236                   | 23                              | 1094              | 42                              | REST            | -                          | REST                      |                                           | REST             | -                              | 417             | 58                              | 23         |                            | 4640       |
| 2012        | 1,091                  | 42                              | 622               | -                               | 2,094           | 33                         | REST                      | 4                                         | REST             | -                              | 349             | 44                              | 121        | 72                         | 4276       |
| 2011        | 985                    | 6                               | 1,249             | 33                              | REST            | -                          | REST                      | -                                         | 1,366            | 37                             | 302             | 9                               | 248        |                            | 4150       |
| 2010        | 1,380                  | 24                              | 730               | 35                              | 1,613           | -                          | REST                      | 22                                        | REST             | -                              | 294             | 11                              | 168        |                            | 4185       |
| 2009        | 1,127                  | 26                              | 1,594             | 48                              | REST            | -                          | REST                      | -                                         | 1,380            | 35                             | 365             | 42                              | 36         | 28                         | 4502       |
| 2008        | 839                    | 13                              | REST              | -                               | 1,895           | 28                         | 791                       | 52                                        | REST             | -                              | 364             | 36                              |            |                            | 3889       |
| 2007        | 1,584                  | -                               | 1,113             | 28                              | REST            | -                          | REST                      | -                                         | 996              | -                              | 328             | 41                              |            |                            | 4021       |
| 2006        | 2,029                  | 37                              | REST              | -                               | 572             | 36                         | 1,585                     | 50                                        | REST             | -                              | 344             | 19                              |            |                            | 4528       |
| 2005        | 344                    | -                               | 1,244             | -                               | 1,608           | -                          | REST                      | -                                         | REST             | -                              | 328             | -                               | 76         |                            | 3601       |
| 2004        | 663                    | -                               | REST              | -                               | REST            | -                          | 269                       | -                                         | 533              | -                              | 346             | -                               |            |                            | 1811       |
| 2003        | 1,195                  | 39                              | 1,223             | 36                              | REST            | -                          | REST                      | 12                                        | 1,322            | -                              | 311             | -                               |            |                            | 4052       |
| 2002        | 1,210                  | 36                              | 1,071             | 35                              | 1,781           | -                          | REST                      | 37                                        | 12               | -                              | 355             | 3                               |            |                            | 4429       |
| 2001        | 1,425                  | -                               | 1,541             | -                               | REST            | -                          | REST                      | -                                         | 1,356            | 42                             | 320             | -                               |            |                            | 4641       |
| 2000        | 804                    | -                               | REST              | -                               | 1,521           | -                          | 839                       | -                                         | Used w/ Twin Lks | 38                             | 331             | 30                              |            |                            | 1853       |
| 1999        | 1,216                  | -                               | 866               | 33                              | 1,141           | -                          | REST                      | -                                         | REST             | -                              | 122             | -                               | 49         |                            | 3455       |
| 1998        | 1,019                  | 40                              | REST              | -                               | REST            | -                          | 1,087                     | 40                                        | 1,576            | 36                             | 109             | 26                              | 60         |                            | 3899       |
| 1997        | 868                    | -                               | 1,308             | 44                              | 1,591           | 19                         | REST                      | -                                         | REST             | -                              |                 | -                               |            |                            | 3767       |
| 1996        | 1,006                  | 68                              | REST              | -                               | REST            | -                          | 921                       | -                                         | 520              | 23                             |                 | -                               | 72         |                            | 3359       |
| 1995        | 497                    | 66                              | 1,929             | 28                              | 1,146           | -                          | REST                      | -                                         | REST             | -                              |                 | -                               |            |                            | 3573       |
| 1994        | -                      | 62                              | -                 | -                               | -               | -                          | -                         | -                                         | -                | -                              | -               | 47                              |            |                            |            |
| 1993        | -                      | -                               | -                 | 45                              | -               | 34                         | -                         | -                                         | -                | -                              | -               | -                               |            |                            |            |
| 1992        | -                      | 47                              | -                 | -                               | -               | 12                         | -                         | 58                                        | -                | -                              | -               | -                               |            | 79                         |            |
| 1991        | -                      | -                               | -                 | 19                              | -               | -                          | -                         | -                                         | -                | 14                             | -               | -                               |            |                            |            |
|             | 1067                   | 23                              | 1091              | 41                              |                 | 32                         | 817                       | 35                                        |                  |                                | 343             | 33                              | 114        | 50                         |            |
| Overall Avg | 1006                   | 35                              | 1201              | 37                              | 1496            | 27                         | 798                       | 35                                        | 1130             | 35                             | 314             | 31                              | 94         | 60                         | 3879       |

The permit dates for the Coyote-Colvin Allotment are 2/5-12/14, under a rest rotation grazing management system as defined in the Lakeview Resource Management Plan (RMP)/Record of Decision (ROD), (BLM 2003, as maintained). The total permitted AUMs for the allotment is 5,091 (permit #3601273). The total average actual use for the allotment over the last 10 years has been 3,616 AUMs. Of the years that utilization data has been collected, the target utilization of 50% has been exceeded four times out of six pastures over the last 10 years (Table 1). Use within the allotment has occurred within the permit dates, and has not exceeded the permitted AUMs over the last 20 years.

Actual use shows some pastures have followed the rest rotation management system, while other pastures have been used consecutively with little rest provided (Table 4 above).

## East Coyote Hills Pasture

### CC-9 (Photo, Line Intercept) – *Downward*

#### Observed Apparent Trend at CC-9

|                       | <b>2010</b>   | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 5             | 4             | 6             |
| <b>Seedlings</b>      | 4             | 2             | 3             |
| <b>Surface Litter</b> | 4             | 4             | 5             |
| <b>Pedestals</b>      | 4             | 4             | 5             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 22            | 19            | 24            |
| <b>Rating</b>         | <i>Stable</i> | <i>Stable</i> | <i>Upward</i> |

#### Percent Shrub Cover Line Intercept at CC-9

|                        | <b>2012</b> |
|------------------------|-------------|
| <b>LI 1</b>            | 19.8        |
| <b>LI 2</b>            | 22.2        |
| <b>LI 3</b>            | 25.7        |
| <b>Average % Cover</b> | <b>29</b>   |

This trend plot was established in 1985 to monitor the rabbit rehabilitation seeding. Since the 1998 photos, crested wheatgrass plants have decreased in abundance. Cheatgrass has been present in all of the photos. This site is in a downward trend, because of the lack of rest from livestock grazing and drought.

Overall, trend at this site (CC-9) is downward.

### CC-21 (Photo) – *Upward*

#### Observed Apparent Trend at CC-21

|                       | 2010          | 2012          | 2014          |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 6             | 8             | 8             |
| <b>Seedlings</b>      | 6             | 4             | 7             |
| <b>Surface Litter</b> | 5             | 3             | 5             |
| <b>Pedestals</b>      | 4             | 4             | 4             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 26            | 24            | 29            |
| <b>Rating</b>         | <i>Upward</i> | <i>Stable</i> | <i>Upward</i> |

#### Percent Cover at CC-21

|                    | 2012 | 2014 |
|--------------------|------|------|
| <b>Bare Ground</b> | 8    | 3    |
| <b>Litter</b>      | 23   | 39   |
| <b>Rock</b>        | 2    | 4    |
| <b>Gravel</b>      | 4    | 0    |
| <b>Vegetation</b>  | 63   | 54   |
| <b>Crust/Moss</b>  | 0    | 0    |

#### Percent Composition at CC-21

|                                | 2012 | 2014 |
|--------------------------------|------|------|
| <b>Crested wheatgrass</b>      | 90   | 93   |
| <b>Sandberg Bluegrass</b>      | 6    | 3    |
| <b>Intermediate wheatgrass</b> | 2    |      |
| <b>Wyoming Big sagebrush</b>   | 1    | 1    |
| <b>Gray rabbitbrush</b>        | 1    | 3    |

#### Percent Shrub Cover Line Intercept at CC-21

|                        | 2012 |
|------------------------|------|
| <b>LI 1</b>            | 6    |
| <b>LI 2</b>            | 12.6 |
| <b>LI 3</b>            | 12   |
| <b>Average % Cover</b> | 10   |

This trend plot was established in 1980, and the area was seeded in the fall after the Plush wildfire. The Notes from the file state that the area was heavily covered with cheatgrass in 1981. Currently, crested wheatgrass plants are abundant and vegetative (abundant thick full leaves). Sagebrush is also present in the photos in recent years. This site is in an upward trend.

Overall, trend at this site (CC-21) is Upward.

## Priday Riparian Pasture

CC-16 (Photo) – *Stable*

### Observed Apparent Trend at CC-16

|                | 2012          | 2014          |
|----------------|---------------|---------------|
| Vigor          | 8             | 9             |
| Seedlings      | 7             | 8             |
| Surface Litter | 5             | 5             |
| Pedestals      | 5             | 5             |
| Gullies        | 5             | 5             |
| <b>Total</b>   | <b>31</b>     | <b>32</b>     |
| <i>Rating</i>  | <i>Upward</i> | <i>Upward</i> |

This trend plot was established to record vegetation response and erosion control of a gully in a meadow. Since this plot was established this area has improved. The most recent photos show a stable trend. The landscape photos also show an increase in juniper in recent years as compared to the original photos.

Overall, trend at this site (CC-16) is stable.

## Colvin Timbers Pasture

### CC-02 (Photo and Pace 180) – Stable

#### Observed Apparent Trend at CC-02

|                | 2010          | 2012          | 2014          |
|----------------|---------------|---------------|---------------|
| Vigor          | 8             | 8             | 9             |
| Seedlings      | 7             | 8             | 8             |
| Surface Litter | 4             | 3             | 5             |
| Pedestals      | 4             | 5             | 4             |
| Gullies        | 5             | 5             | 5             |
| <b>Total</b>   | <b>28</b>     | <b>29</b>     | <b>31</b>     |
| <b>Rating</b>  | <i>Upward</i> | <i>Upward</i> | <i>Upward</i> |

#### Percent Cover at CC-02

|             | 2012 | 2014 |
|-------------|------|------|
| Bare Ground | 55   | 26   |
| Litter      | 14   | 14   |
| Rock        | 3    | 6    |
| Gravel      | 1    | 0    |
| Vegetation  | 27   | 53   |
| Crust/Moss  | 0    | 1    |

#### Percent Composition at CC-02

|                       | 2012 | 2014 |
|-----------------------|------|------|
| Sandberg Bluegrass    | 28   | 44   |
| Squirreltail          | 12   | 6    |
| Thurber's Needlegrass | 24   | 23   |
| Wyoming Big sagebrush | 12   | 1    |
| Low sagebrush         | 10   | 20   |
| Phlox                 | 2    | 2    |
| Green rabbitbrush     | 6    | 1    |
| Erigeron              |      |      |
| Crepis                |      |      |

#### Percent Shrub Cover Line Intercept at CC-02

|                        | 2012      | 2014      |
|------------------------|-----------|-----------|
| LI 1                   | 13        | 11.3      |
| LI 2                   | 3.5       | 11.4      |
| LI 3                   | 12.5      | 22.4      |
| <b>Average % Cover</b> | <b>10</b> | <b>15</b> |

This photo trend plot was established in 1983 to monitor a big sagebrush vegetation type. Pace 180 transect, and line intercept was added to this trend plot in 2012. There is difference in the data between 2012 and 2014; however, photo analysis indicates no noticeable changes in percent cover and composition two years is generally not enough time to detect a change. Overall, this site is stable.

Overall, trend at this site (CC-02) is stable.

**CC-7 (Photo, Pace 180, Line Intercept) – *Upward***

**Observed Apparent Trend at CC-7**

|                       | <b>2010</b>   | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 9             | 9             | 10            |
| <b>Seedlings</b>      | 9             | 7             | 9             |
| <b>Surface Litter</b> | 4             | 4             | 5             |
| <b>Pedestals</b>      | 5             | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 32            | 30            | 34            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> | <i>Upward</i> |

**Percent Cover at CC-7**

|                    | <b>2012</b> | <b>2014</b> |
|--------------------|-------------|-------------|
| <b>Bare Ground</b> | 13          | 7           |
| <b>Litter</b>      | 28          | 8           |
| <b>Rock</b>        | 7           | 5           |
| <b>Gravel</b>      | 3           | 0           |
| <b>Vegetation</b>  | 49          | 80          |
| <b>Crust/Moss</b>  | 0           | 0           |

**Percent Composition at CC-7**

|                               | <b>2012</b> | <b>2014</b> |
|-------------------------------|-------------|-------------|
| <b>Sandberg Bluegrass</b>     | 36          | 34          |
| <b>Squirreltail</b>           | 3           | 2           |
| <b>Thurber's Needlegrass</b>  | 9           | 3           |
| <b>Lupine</b>                 |             | 7           |
| <b>Mountain Big sagebrush</b> | 34          | 5           |
| <b>Low sagebrush</b>          | 0           | 24          |
| <b>Bitterbrush</b>            | 5           | 13          |
| <b>Green rabbitbrush</b>      | 11          | 11          |
| <b>Grey rabbitbrush</b>       | 2           | 0           |

**Percent Shrub Cover Line Intercept at CC-7**

| <b>Transect #</b>      | <b>2012</b> | <b>2014</b> |
|------------------------|-------------|-------------|
| <b>LI 1</b>            | 25.6        | 21          |
| <b>LI 2</b>            | 27.8        | 25.9        |
| <b>LI 3</b>            | 34.2        | 44.2        |
| <b>Average % Cover</b> | <b>29.2</b> | <b>30.4</b> |

This trend plot was established in 1983 to monitor a mountain sagebrush vegetation type. Pace 180 and line intercept was added to this trend plot in 2012. Although there are some variations in the data between years, two years is generally not enough time to detect a change in an upland site. Photo analysis indicates an upward trend. Sagebrush is increasing and grass seedlings are evident in the most recent photos. Plants appear healthy and vigorous in most of the photos. In the recent photographs, there has been a slight increase in overall vegetation. Overall, this trend plot is in an upward trend.

Overall, trend at this site (CC-7) is upward.

**CC-17 (Photo) – *Upward***

**Observed Apparent Trend at CC-17**

|                       | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 9             | 9             |
| <b>Seedlings</b>      | 9             | 10            |
| <b>Surface Litter</b> | 5             | 4             |
| <b>Pedestals</b>      | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 33            | 33            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

This trend plot was established in 1976 to record vegetation and soil response to grazing management on a rocky, low-sagebrush vegetation type. Photo analysis indicates an upward trend. Photos from the culvert show vegetation has increased in toward the channel providing further stabilization. Overall trend at this site is upward.

Overall, trend at this site (CC-17) is upward.



## Aroga Moth Pasture

CC-22 (Photo and Pace 180) – *Downward*

### Observed Apparent Trend at CC-22

|                       | 2010          | 2012          | 2014          |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 6             | 4             | 7             |
| <b>Seedlings</b>      | 7             | 5             | 8             |
| <b>Surface Litter</b> | 4             | 4             | 5             |
| <b>Pedestals</b>      | 4             | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 26            | 23            | 30            |
| <b>Rating</b>         | <i>Upward</i> | <i>Stable</i> | <i>Upward</i> |

### Percent Cover at CC-22

|                    | 2010 | 2012 | 2014 |
|--------------------|------|------|------|
| <b>Bare Ground</b> | 32   | 41   | 6    |
| <b>Litter</b>      | 17   | 22   | 4    |
| <b>Rock</b>        | 0    | 1    | 11   |
| <b>Gravel</b>      | 0    | 24   | 0    |
| <b>Vegetation</b>  | 51   | 12   | 79   |
| <b>Crust/Moss</b>  | 0    | 0    | 0    |

### Percent Composition at CC-22

|                              | 2010 | 2012 | 2014 |
|------------------------------|------|------|------|
| <b>Crested wheatgrass</b>    | 96   | 25   | 98   |
| <b>Wyoming Big sagebrush</b> | 4    | 5    | 2    |

### Percent Shrub Cover Line Intercept at CC-22

| Transect #             | 2012 |
|------------------------|------|
| <b>LI 1</b>            | 11.2 |
| <b>LI 2</b>            | 13.9 |
| <b>LI 3</b>            | 14.3 |
| <b>Average % Cover</b> | 13   |

The first photos were taken in 1987. The earlier photos show just a few sagebrush plants within the crested wheatgrass seeding. Although the reference post has been replaced several times, the general photos of the area show a loss of abundance and vigor of crested wheatgrass plants since the seeding was established. The 2014 photos show an increase of cheatgrass as compared to the previous photos. The 2012 and 2014 photos show a downward trend as compared to the 1980s and 1990s photos. The downward trend is due to lack of consistent rest from livestock grazing, heavy utilization, and drought.

Overall, trend at this site (CC-22) is downward.

## Rabbit Creek Pasture

### CC-14 (Photo) – *Stable*

#### Observed Apparent Trend at CC-14

|                       | 2010          | 2012          | 2014          |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 8             | 10            | 9             |
| <b>Seedlings</b>      | 8             | 6             | 8             |
| <b>Surface Litter</b> | 4             | 5             | 5             |
| <b>Pedestals</b>      | 4             | 5             | 3             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 29            | 31            | 32            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> | <i>Upward</i> |

This plot was established along the fence line at the bottom of Rabbit Creek. This photo plot was established in 1976 to determine success of the designed drainage crossing on Rabbit Creek, and to record fenceline contrast between Twin Lakes and Colvin Timbers Pastures. Photo analysis shows the fence crossing to be successful and still in place. The permittee also trails cattle through this area, and a 4-wheeler trail has developed along the fence line to the north towards Binki Lake and the Twin Lakes Pasture. Vegetation differs between years due to annual precipitation and graze/rest cycles. The most recent photos show juniper increasing in the creek bed and hillside. Overall, photo analysis indicates a stable trend at this site.

Overall, trend at this site (CC-14) is stable.

## Twin Lakes Pasture

### CC-01 (Photo, Line Intercept, and Nested Frequency) - *Upward*

#### Observed Apparent Trend at CC-01

|                       | 1987          | 1998          | 2012          | 2014          |
|-----------------------|---------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 7             | 8             | 8             | 5             |
| <b>Seedlings</b>      | 6             | 7             | 6             | 7             |
| <b>Surface Litter</b> | 4             | 5             | 5             | 5             |
| <b>Pedestals</b>      | 2             | 4             | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             | 5             | 5             |
| <b>Total</b>          | 24            | 29            | 29            | 27            |
| <b>Rating</b>         | <i>Stable</i> | <i>Upward</i> | <i>Upward</i> | <i>Upward</i> |

#### Percent Cover at CC-01

|                    | 1993 | 1998 | 2012 | 2014 |
|--------------------|------|------|------|------|
| <b>Bare Ground</b> | 70   | 66   | 19   | 39   |
| <b>Litter</b>      | 12   | 14   | 55   | 4242 |
| <b>Rock</b>        | 4    | 2    | 3    | 4    |
| <b>Gravel</b>      | 0    | 0    | 0    | 0    |
| <b>Vegetation</b>  | 14   | 18   |      | 13   |
| <b>Crust/Moss</b>  | 0    | 0    | 0    | 0    |

#### Percent Frequency at CC-01

|                              | 1987 | 2012 | 2014 |
|------------------------------|------|------|------|
| <b>Bluebunch wheatgrass</b>  | 6    | 0    | 0    |
| <b>Sandberg Bluegrass</b>    | 33   | 12   | 56   |
| <b>Squirreltail</b>          | 40   | 12   | 14   |
| <b>Idaho fescue</b>          |      |      | 3    |
| <b>Thurber's Needlegrass</b> | 13   | 38   | 9    |
| <b>Great Basin wildrye</b>   | 3    | 1    |      |
| <b>Cheatgrass</b>            |      | 90   | 93   |
| <b>Crepis</b>                |      | 13   | 5    |
| <b>Phlox</b>                 |      | 61   | 71   |
| <b>Microseris</b>            |      |      | 10   |
| <b>Lupine</b>                |      |      | 1    |
| <b>Green rabbitbrush</b>     |      | 62   | 59   |
| <b>Grey rabbitbrush</b>      |      |      | 2    |
| <b>Low sagebrush</b>         | 2    |      |      |
| <b>Big sagebrush</b>         | 9    |      |      |

#### Percent Shrub Cover Line Intercept at CC-01

| Transect #             | 2012      | 2014      |
|------------------------|-----------|-----------|
| <b>LI 1</b>            | 9.6       | 11.9      |
| <b>LI 2</b>            | 11        | 8.8       |
| <b>LI 3</b>            | 18.3      | 17.9      |
| <b>Average % Cover</b> | <b>13</b> | <b>13</b> |

This trend plot was established in 1987. Observed apparent trend was upward in most years. The Abert wildfire burned through the area in 2001. The data shows that the vegetative composition changed

somewhat after the fire. Photo analysis indicates that plot has an upward trend since the fire. Rabbit brush, along with some sagebrush has re-vegetated after the fire.

Overall, trend at this site (CC-01) is upward.

**CC-05 (Photo, Pace 180, and Line Intercept) - Upward**

**Observed Apparent Trend at CC-05**

|                       | 2010          | 2012          | 2014          |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 7             | 7             | 8             |
| <b>Seedlings</b>      | 9             | 5             | 8             |
| <b>Surface Litter</b> | 4             | 5             | 5             |
| <b>Pedestals</b>      | 5             | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 30            | 27            | 31            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> | <i>Upward</i> |

**Percent Cover at CC-05**

|                    | 2010 | 2012 | 2014 |
|--------------------|------|------|------|
| <b>Bare Ground</b> | 17   | 11   | 8    |
| <b>Litter</b>      | 6    | 10   | 13   |
| <b>Rock</b>        | 15   | 17   | 32   |
| <b>Gravel</b>      | 0    | 17   | 0    |
| <b>Vegetation</b>  | 55   | 42   | 47   |
| <b>Crust/Moss</b>  | 7    | 3    | 0    |

**Percent Composition at CC-05**

|                              | 2010 | 2012 | 2014 |
|------------------------------|------|------|------|
| <b>Sandberg Bluegrass</b>    | 41   | 55   | 57   |
| <b>Squirreltail</b>          | 4    | 1    | 2    |
| <b>Thurber's Needlegrass</b> | 1    | -    | -    |
| <b>Low sagebrush</b>         | 44   | 36   | 37   |
| <b>Green rabbitbrush</b>     | 1    | 2    | -    |
| <b>Horsebrush</b>            | 1    | -    | -    |
| <b>Hopsage</b>               | 1    | -    | -    |
| <b>Lomatium</b>              | -    | -    | 4    |
| <b>Phlox</b>                 | 3    | 5    | 3    |
| <b>Buckwheat</b>             | 3    | 1    | -    |
| <b>Crepls</b>                | 1    | -    | -    |
| <b>Cheatgrass</b>            | -    | 1    | -    |
| <b>Japanese brome</b>        | -    | 1    | -    |

**Percent Shrub Cover Line Intercept at CC-05**

| Transect #             | 2012      | 2014      |
|------------------------|-----------|-----------|
| <b>LI 1</b>            | 16        | 20        |
| <b>LI 2</b>            | 21.5      | 19        |
| <b>LI 3</b>            | 21.5      | 30        |
| <b>Average % Cover</b> | <b>20</b> | <b>23</b> |

This trend plot was established in 1983 to monitor a low sagebrush vegetation type. Observed apparent trend is upward at this site. Percent cover of bare ground has decreased from 2010 to 2014; however, photos show no distinguishable change during that timeframe. This site does have an abundance of rocks and gravel, which along with the vegetation, limits the amount of bare ground. The only noticeable change is comparing 2014 photos with the 1983 photos, at which there is a slight increase in sagebrush numbers and vigor. Trend data and photo analysis indicates that trend at this site is upward.

Overall, trend at this site (CC-05) is upward.

## Windy Hollow Seeding Pasture Trend Plots

### CC-03 (Photo and Pace 180) - *Stable*

#### Observed Apparent Trend at CC-03

|                       | 2010          | 2012          | 2014          |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 8             | 8             | 7             |
| <b>Seedlings</b>      | 8             | 4             | 9             |
| <b>Surface Litter</b> | 4             | 5             | 4             |
| <b>Pedestals</b>      | 4             | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 29            | 27            | 30            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> | <i>Upward</i> |

#### Percent Cover at CC-03

|                    | 2010 | 2012 | 2014 |
|--------------------|------|------|------|
| <b>Bare Ground</b> | 17   | 5    | 3    |
| <b>Litter</b>      | 48   | 48   | 56   |
| <b>Rock</b>        | 0    | 1    | 3    |
| <b>Gravel</b>      | 0    | 17   | 0    |
| <b>Vegetation</b>  | 35   | 29   | 38   |
| <b>Crust/Moss</b>  | 0    | 0    | 0    |

#### Percent Composition at CC-03

|                              | 2010 | 2012 | 2014 |
|------------------------------|------|------|------|
| <b>Crested Wheatgrass</b>    | 88   | 97   | 100  |
| <b>Sandberg Bluegrass</b>    | 2    | 1    | -    |
| <b>Lupine</b>                | 9    | -    | -    |
| <b>Mustard</b>               | 1    | -    | -    |
| <b>Thurber's Needlegrass</b> | -    | 2    | -    |
| <b>Cheatgrass</b>            | -    | 44   | 36   |

This trend plot was established in 1983 to monitor a big sagebrush vegetation type; however, this site burned in the 1985 wildfire and was rehabilitated to a crested wheatgrass seeding. The 3X3 plot was re-established in 2012. Observed Apparent Trend indicates this site is in an upward trend. Percent cover vegetation has remained fairly constant from 2010 to 2014. Photo analysis shows no significant decrease in bare ground between 2010 and 2014. Overall, data and photo analysis indicates a stable trend at this trend site with variations in photos depending on annual precipitation and graze/rest cycles.

Overall, trend at this site (CC-03) is stable.

**CC-04 (Photo) - Upward**

**Observed Apparent Trend at CC-04**

|                       | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 9             | 7             |
| <b>Seedlings</b>      | 9             | 8             |
| <b>Surface Litter</b> | 5             | 4             |
| <b>Pedestals</b>      | 4             | 4             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 32            | 28            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

This trend plot was established in 1983 and was established to monitor a low sagebrush vegetation type. However, this site burned during a 1985 wildfire and was included in the rehabilitation seeding. Photo analysis shows crested wheatgrass plants to be healthy, abundant and vigorous. The 2014 trend photos were taken on a grazed year as compared to the 2012 photos. Sandberg's bluegrass is present in the recent photos.

Overall, trend at this site (CC-04) is upward.

**CC-08 (Photo) - Upward**

**Observed Apparent Trend at CC-08**

|                       | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 9             | 6             |
| <b>Seedlings</b>      | 9             | 7             |
| <b>Surface Litter</b> | 5             | 4             |
| <b>Pedestals</b>      | 5             | 4             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 33            | 25            |
| <b>Rating</b>         | <i>Upward</i> | <i>Stable</i> |

This trend plot was established in 1985 to record the establishment of the Coyote Rehabilitation Seeding. Photo analysis shows a stable trend for this crested wheatgrass seeding. Plants are abundant, vigorous, and healthy. Litter is evident and providing cover in the 2012 and 2014 photos. Sandberg's bluegrass is present in the recent photos.

Overall, trend at this site (CC-08) is Upward.

## West Coyote Hills Pasture Trend Plots

### CC-10 (Photo) - *Downward*

#### Observed Apparent Trend at CC-10

|                       | 2012          | 2014          |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 10            | 9             |
| <b>Seedlings</b>      | 8             | 9             |
| <b>Surface Litter</b> | 5             | 9             |
| <b>Pedestals</b>      | 5             | 4             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 33            | 33            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

This trend plot is located at Cement Springs. This site was established in 1975 and the purpose was to observe change in vegetation on the wet meadow/spring area under a rest-rotation grazing management system. It was noted that this area probably received the heaviest grazing use each year during the growing season. This site was in an upward trend between 1989 photos and 1998, as riparian/meadow vegetation increased, and bare ground decreased. Precipitation and grazing levels have influenced differences in the photos between 1998 and the most recent photos 2014. This pasture has been grazed 7 years out of the last 10 years (rested 3), of which five of those years were consecutively. Recent field tour and photo analysis has led to the determination that this meadow and other meadow/riparian/wetland areas in the West Coyote Hills Pasture are at risk with their condition trending downward. The lack of adequate rest coupled with drought has led to the downward trend at this site.

Overall, trend at this site (CC-10) is downward.

### CC-11 (Photo) - Downward

#### Observed Apparent Trend at CC-11

|                       | 2012          | 2014          |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 10            | 7             |
| <b>Seedlings</b>      | 8             | 8             |
| <b>Surface Litter</b> | 5             | 4             |
| <b>Pedestals</b>      | 5             | 4             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 28            | 28            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

This trend plot was established in 1975 to observe vegetative response within a good moisture meadow draw under a rest rotation management system. This trend plot includes photos in multiple directions on top of a reservoir. The meadow area around the reservoir has improved since it was established and riparian/meadow vegetation has increased. Photos of draw near the meadow were added to the trend photos at this site in 1976. This improved since it was established and riparian vegetation increased. The gully present in some of the photos has perennial vegetation established in the bottom and on the

sides. The sides within the photos are sloping and rounded. From the late 1970s through the 1990s this area was in an upward trend. The most recent photos were taken in 2010, 2012, 2014, and 2015. Recent field tour and photo analysis has led to the determination that the meadow and riparian/wetland areas in the West Coyote Hills Pasture are at risk with their condition trending downward. This pasture has been grazed 7 years out of the last 10 years (rested 3), of which five of those years were consecutively. Recent field tour and photo analysis has led to the determination that this meadow and riparian/wetland areas in the West Coyote Hills Pasture are at risk with their condition trending downward. The lack of adequate rest coupled with drought has led to the downward trend at this site.

Overall, trend at this site (CC-11) is downward.

**CC-06 (Photo) – *Downward***

**Observed Apparent Trend at CC-06**

|                       | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 10            | 8             |
| <b>Seedlings</b>      | 8             | 6             |
| <b>Surface Litter</b> | 5             | 5             |
| <b>Pedestals</b>      | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 33            | 29            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

This trend plot was established in 1983, is located in a dry meadow, and was established to monitor the meadow. In recent photos, 2010-2015, vegetative growth does not appear as vigorous, and is due to the ongoing drought, grazing levels, and lack of rest from grazing. This pasture has been grazed 7 years out of the last 10 years (rested 3), of which five of those years were consecutively. Recent field tour and photo analysis has led to the determination that this meadow and other riparian/wetland areas in the West Coyote Hills Pasture are at risk with their condition trending downward. The lack of adequate rest coupled with drought has led to the downward trend at this site.

Overall, trend at this site (CC-06) is downward.



### CC-12 (Photo) - *Downward*

#### Observed Apparent Trend at CC-12

|                       | 2012          | 2014          |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 10            | 9             |
| <b>Seedlings</b>      | 6             | 7             |
| <b>Surface Litter</b> | 5             | 5             |
| <b>Pedestals</b>      | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 31            | 31            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

This trend plot was established in 1997 and is located near a waterhole within the riparian/meadow area along the bottom of the Windy Hollow Draw. This pasture has been grazed 7 years out of the last 10 years (rested 3), of which five of those years were consecutively. Recent field tour and photo analysis has led to the determination that the meadow and riparian/wetland areas in the West Coyote Hills Pasture are at risk with their condition trending downward. The lack of adequate rest coupled with drought has led to the downward trend at this site.

Overall, trend at this site (CC-12) is downward.

### CC-19 (Photo) - *Downward*

#### Observed Apparent Trend at CC-19

|                       | 2012          | 2014          |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 8             | 7             |
| <b>Seedlings</b>      | 6             | 6             |
| <b>Surface Litter</b> | 5             | 4             |
| <b>Pedestals</b>      | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 29            | 27            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

Photos have been taken at this site since 1977. This trend plot is located in a meadow area near a waterhole and an enclosure, in an area that receives high livestock concentration. This pasture has not received adequate rest every other year and the meadow and riparian/wetland areas in the pasture have been used heavier because of the terrain of the pasture. Recent field tour and photo analysis has led to the determination that the meadow/riparian/wetland areas in the West Coyote Hills Pasture are at risk with their condition trending downward. The lack of adequate rest coupled with drought has led to the downward trend on the meadow areas outside of the enclosure at this site.

Overall, trend at this site (CC-19) is Downward.

**CC-18 (Photo) – Downward**

**Observed Apparent Trend at CC-18**

|                       | <b>2010</b>   | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|---------------|
| <b>Vigor</b>          | 8             | 8             | 5             |
| <b>Seedlings</b>      | 8             | 89            | 6             |
| <b>Surface Litter</b> | 4             | 5             | 5             |
| <b>Pedestals</b>      | 4             | 5             | 5             |
| <b>Gullies</b>        | 5             | 5             | 5             |
| <b>Total</b>          | 29            | 31            | 26            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> | <i>Upward</i> |

This trend plot was established at a trough between two enclosure fences in Miners Draw. Recent photos taken looking into the enclosure show an upward trend at this site as compared to the older photos (1977 and 1989). The meadow areas outside the enclosure fences are in a downward trend. This pasture has been grazed 7 years out of the last 10 years (rested 3), of which five of those years were consecutively. Recent field tour and photo analysis has led to the determination that the meadow/riparian/wetland areas in the West Coyote Hills Pasture are at risk with their condition trending downward. The lack of adequate rest coupled with drought has led to the downward trend on the meadow areas outside of the enclosures at this site.

Overall, trend at this site (CC-18) is downward.

**CC-23 (Photo, Pace 180, and Line Intercept) - Stable**

**Observed Apparent Trend at CC-23**

|                       | <b>2012</b>   | <b>2014</b>   |
|-----------------------|---------------|---------------|
| <b>Vigor</b>          | 10            | 6             |
| <b>Seedlings</b>      | 8             | 6             |
| <b>Surface Litter</b> | 2             | 5             |
| <b>Pedestals</b>      | 4             | 5             |
| <b>Gullies</b>        | 5             | 5             |
| <b>Total</b>          | 28            | 27            |
| <b>Rating</b>         | <i>Upward</i> | <i>Upward</i> |

**Percent Cover at CC-23**

|                    | <b>2012</b> | <b>2014</b> |
|--------------------|-------------|-------------|
| <b>Bare Ground</b> | 17          | 6           |
| <b>Litter</b>      | 22          | 7           |
| <b>Rock</b>        | 0           | 7           |
| <b>Gravel</b>      | 15          | 0           |
| <b>Vegetation</b>  | 46          | 80          |
| <b>Crust/Moss</b>  | 0           | 0           |

**Percent Composition at CC-23**

|                               | <b>2012</b> | <b>2014</b> |
|-------------------------------|-------------|-------------|
| <b>Sandberg Bluegrass</b>     | 44          | 39          |
| <b>Squirreltail</b>           | 1           | 4           |
| <b>Thurber's Needlegrass</b>  | 17          | 12          |
| <b>Low sagebrush</b>          | 8           | 3           |
| <b>Green rabbitbrush</b>      | 20          | 2           |
| <b>Horsebrush</b>             | 1           | 0           |
| <b>Mountain Big Sagebrush</b> | 6           | 28          |
| <b>Phlox</b>                  | 3           | 11          |
| <b>Paint Brush</b>            | 0           | 1           |
| <b>Lupine</b>                 | 0           | 1           |
| <b>Cheatgrass</b>             | 0           | 1           |

**Percent Shrub Cover Line Intercept at CC-23**

| <b>Transect #</b>      | <b>2012</b> | <b>2014</b> |
|------------------------|-------------|-------------|
| <b>LI 1</b>            | 24.8        | 26.5        |
| <b>LI 2</b>            | 14.5        | 31.8        |
| <b>LI 3</b>            | 20.8        | 25.6        |
| <b>Average % Cover</b> | <b>20</b>   | <b>28</b>   |

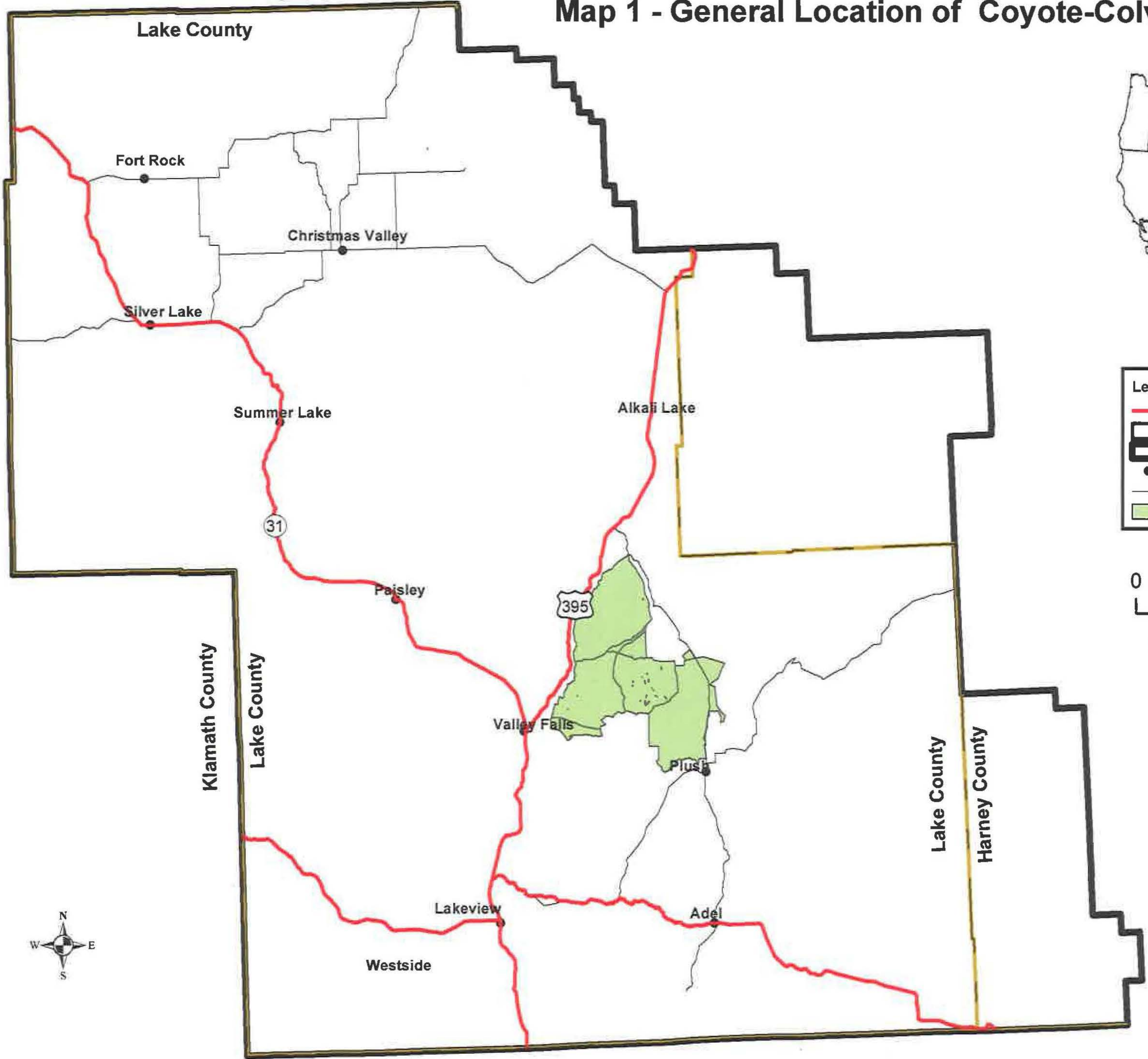
This trend plot was established in 2012 to collect data in the uplands of the West Coyote Hills Pasture. The observed apparent trend found the site to be upward. This pasture was grazed in 2012 and was rested in 2014. The largest differences between years are because of grazing; however, the size and abundance of plants are generally the same. Overall, data and photo analysis indicates a stable trend at this site.

Overall, trend at this site (CC-23) is stable.

Deschutes County

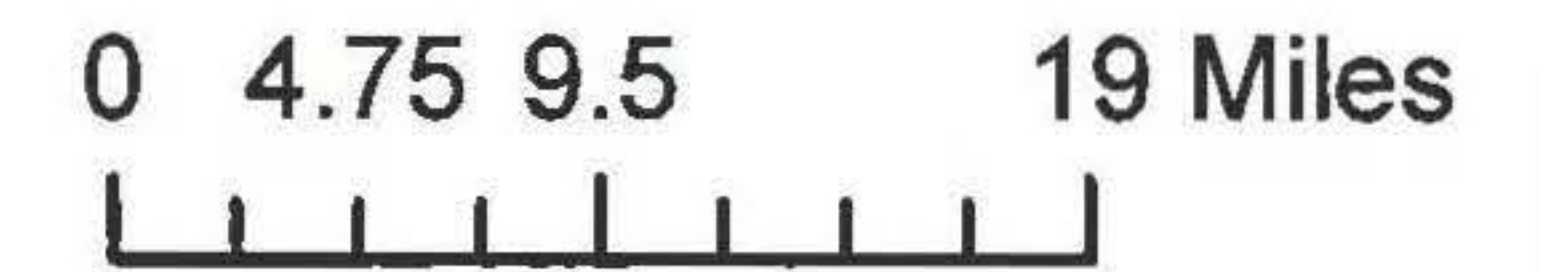
Lake County

# Map 1 - General Location of Coyote-Colvin Allotment



**Legend**

- Highways
- County Boundary
- Lakeview Resource Area
- Cities
- Major Roads
- Coyote-Colvin Allotment



Map prepared by the Oregon Department of Fish and Wildlife, Wildlife Resources Division, in cooperation with the Oregon Department of Agriculture, Forest Management Division, and the Oregon Department of Transportation, Highway Division.



# Map - 3

US DEPARTMENT OF INTERIOR  
Bureau of Land Management  
Lakeview District, Oregon

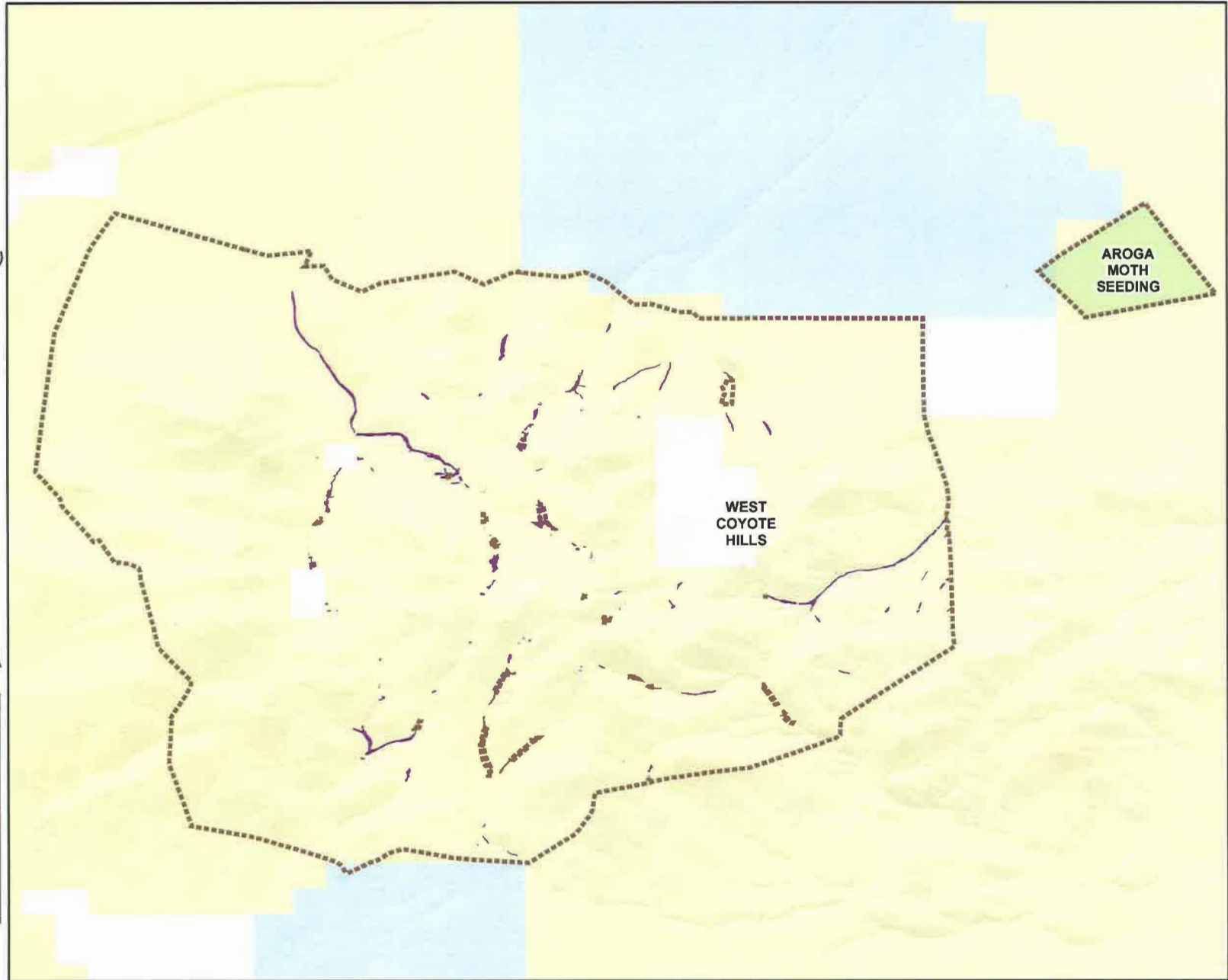
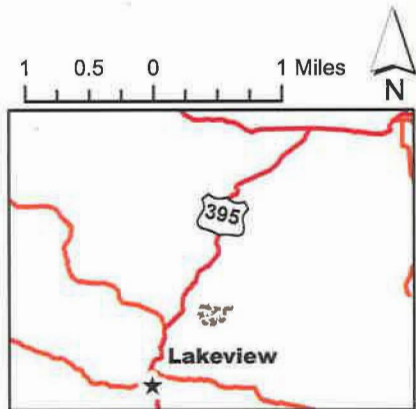
**Coyote-Colvin Allotment  
#00517**


**Areas Not Meeting Standards:**

**Meadow/Riparian/Wetland Areas (Std 2)  
Within the West Coyote Hills  
&  
Aroga Moth Pasture (Std 1, 3)**

**RHA Update - August 2016**

- Legend**
-  Pastures
  -  Riparian/Wetland Areas not Meeting Standard 2
  -  Aroga Moth Past. Not Meeting Std 1 & 3
  -  Bureau of Land Management
  -  State
  -  Private/Unknown



 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.

# Map - 2

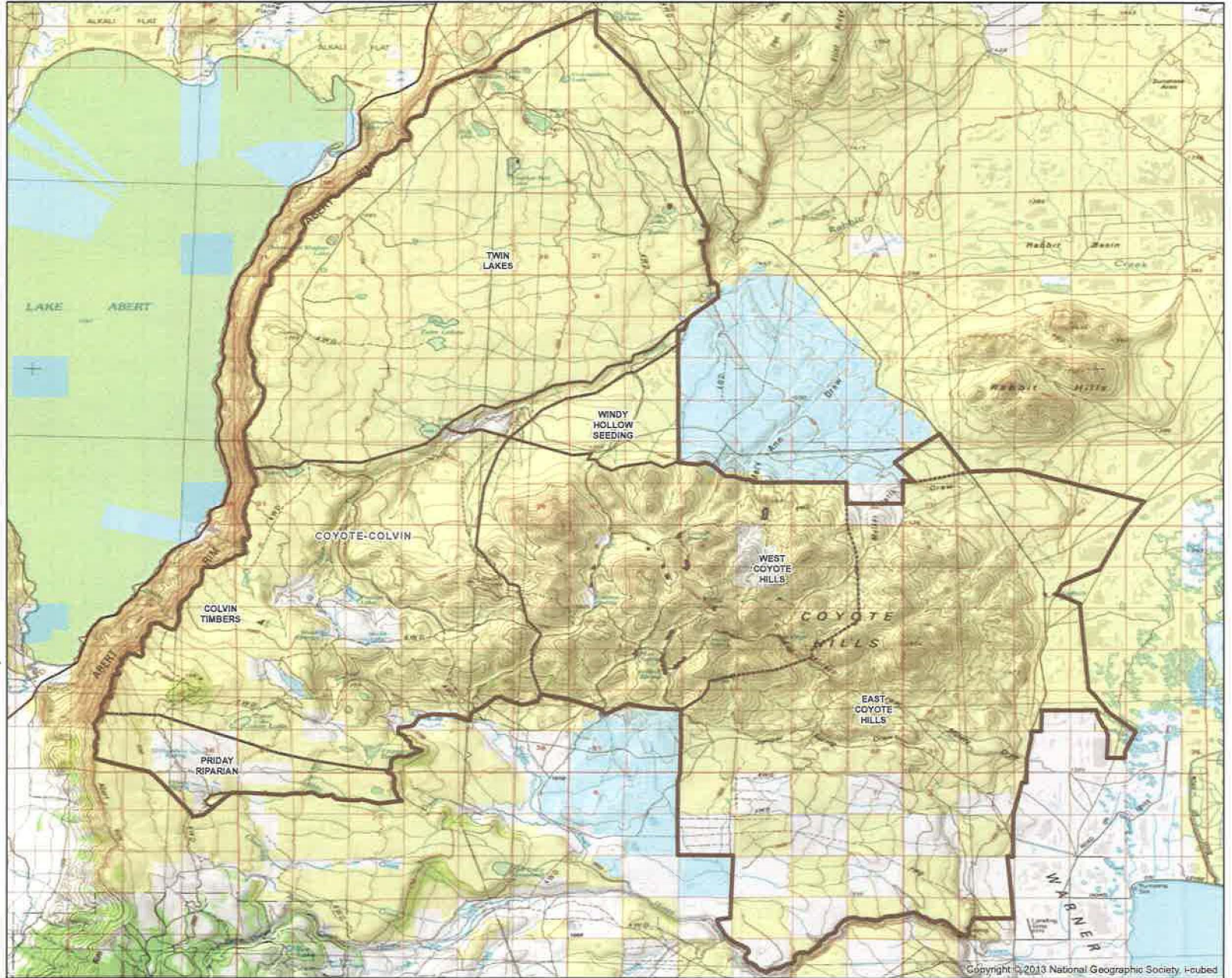
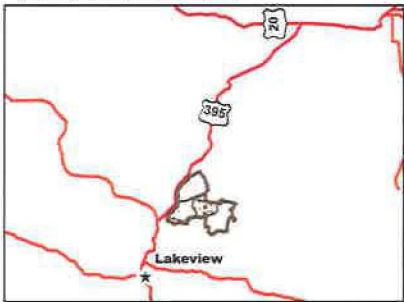
## Coyote-Colvin Allotment #00517

US DEPARTMENT OF INTERIOR  
Bureau of Land Management  
Lakeview District, Oregon

### Legend

-  Allotment
-  Pastures
-  Bureau of Land Management
-  State
-  Private/Unknown

2 1 0 2 Miles



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 aerial photographs. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

**Background**

**BLM Office:** Lakeview District, Lakeview Resource Area

**County:** Lake

**Lease/Serial/Case File No.:** \_\_\_\_\_

**Applicant (if any):** e e \_\_\_\_\_

**Proposed Action Title/Type:** Coyote-Colvin RHA Update

**Location of Proposed Action:** Coyote-Colvin Allotment (see attached map(s))

**Description of Proposed Action:** Rangeland Health Assessment Update

**Survey/Inventory/Assessment/Permit Needs**

|                                                          | Needed? (Y/N) | Done/Attached |
|----------------------------------------------------------|---------------|---------------|
| Cultural Survey                                          |               |               |
| Spec. Status Plant/Weed Survey                           |               |               |
| Wildlife Survey<br>-T&E/Spec. Status<br>-Sage-grouse HAF |               |               |
| Fish/Aquatic Survey<br>-PFC<br>-T&E/Spec. Status         |               |               |
| Biol. Assessment & Consultation                          |               |               |
| RHA Update                                               |               |               |
| Sect. 401/404 Permit (C.W.A.)                            |               |               |
| VRM Sensitivity Analysis                                 |               |               |
| Native American Consultation                             |               |               |

**Survey/Inventory(s) Needed By What Date:**

**Number of Acres or Miles Affected:**

**Name of USGS Quad Map(s):**

**GPS Coordinates (including projection/datum/UTM zone):**

**How is Project Marked on the Ground (flagged, staked, etc.):**

**Description of Access (4X4, foot, etc.) (attach map showing roads to area):**

**Is There Anyone Who Needs to Accompany Specialist to area?**

**Other Information (eg. roads impassable when wet, etc.):**

*Attach map(s) and comment forms for staff use*