

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

Rangeland Health Assessment Update for the
Dead Indian - Duncan Allotment #00709

August 2015

Summary of Rangeland Health Assessments for the Dead Indian-Duncan Allotment

Standard	2015	Summary 2015	2004	Summary 2004
1. Watershed Function – Uplands	Met	Trend studies read within the past three field seasons indicate a stable to upward trend for all locations (see Standard 1 narrative below and Appendix A)	Met	Soil Surface Factor and Plant Community Composition did not substantially deviate from what was expected for the site.
2. Watershed Function Riparian/ Wetland Areas	Met	The National Wetlands Inventory (NWI) classified approximately 166 acres of lacustrine waterbodies or ponds, as well as lotic river systems in this allotment. The lacustrine systems include Duncan Reservoir and a number of developed livestock stock pond/dugouts. Proper Functioning Condition was assessed on Duncan Reservoir and the immediate vicinity of the Duncan Creek inlet in 2015 and determined to be meeting PFC (see Standard 2 narrative below). The lotic system represents Duncan Creek which is generally intermittent, lacks riparian vegetation, and is, therefore not an appropriate site to assess using the PFC methodology.	Met	No perennial streams were identified in the allotment during the 2004 assessment. Lentic acres were assessed by watershed. Though specific palustrine or lacustrine acreage totals for the allotment were not identified, all lentic acres were determined to be in PFC in 1998.
3. Ecological Processes	Met	Trend data collected and analyzed for the past three field seasons indicate that the majority of the allotment is in an upward trend. In 2006-2007, 3,810 acres of western juniper were cut in this allotment as a fuels reduction and habitat restoration project. These treatments are located outside of any permanent trend study plots. However, photos and observed apparent trend (OAT) were established in these treatment areas in 2015. Photos and OAT illustrate that these sites are now dominated by native bunchgrasses and forbs. There are some invasive annual grasses in some of the treatment areas. These areas with invasive annual grasses are scheduled for control efforts in the fall of 2015. Based on limited monitoring data and various field visits, the western juniper treatments were effective in restoring a healthy understory of native grasses and forbs. Reduction of the western junipers in the allotment has also reinvigorated native shrubs such as bitterbrush, big sagebrush, and low sagebrush. This is evident in areas that were treated for western juniper encroachment, and not burned (see narrative below for further discussion).	Met	The Ecological Site Inventory (ESI 1997-2001; refer to Appendix A) indicated 88% of the allotment was in mid to late seral stage; 4% was in early seral stage; 2% of the allotment was in Potential Natural Community (PNC =climax); the remaining 7% of the allotment was not assessed for seral stage. Observed Apparent Trend (OAT) indicated that 86% of the allotment was in a static or upward trend; 6% was in a downward trend; the remaining 7% of the allotment was not assessed for OAT. Much of the allotment supported healthy diverse wildlife populations. Wildlife habitats were threatened by several small areas of noxious weeds and invasive juniper within portions of the allotment. Invasive species like medusahead rye were observed in small areas. Efforts were underway to curtail the spread of noxious weeds. With increasing control of wildfires over the past few decades, western juniper had greatly increased its range within the allotment. There was an adequate level of species diversity within the allotment. This standard was met from the aspect of wildlife populations and diversity.
4. Water Quality	Met	Surface water and ground water within the allotment has not been listed for exceeding water quality Standards. Though livestock are not excluded from Duncan Reservoir or Duncan Creek, access is limited by drift fences and natural barriers including steep rims. Current livestock management is not contributing to the impairment of water quality in this allotment.	Met	Surface water and ground water within the allotment has not been listed for exceeding water quality Standards.
5. Native, T/E, and	Met	Wildlife: Special status wildlife species or their habitats that are present within the	Met	Wildlife: Overall, this standard was met for wildlife species within this allotment. Bald

Standard	2015	Summary 2015	2004	Summary 2004
Locally Important Species		<p>allotment include the Bald Eagle (<i>Haliaeetus leucocephalus</i>), Ferruginous Hawk (<i>Buteo regalis</i>), Peregrine Falcon (<i>Falco peregrinus</i>), Burrowing Owl (<i>Speotyto cunicularia</i>), kit fox (<i>Vulpes macrotis</i>), Greater Sage-Grouse (<i>Centrocercus urophasianus</i>), and pygmy rabbit (<i>Brachylagus idahoensis</i>). There are also three species with high public interest. These are mule deer (<i>Odocoileus hemionus</i>), Rocky Mountain elk (<i>Cervus elaphus</i>) and pronghorn antelope (<i>Antilocapra americana</i>).</p> <p>There are two inactive and one unknown status sage-grouse lek sites within the allotment. Most sage-grouse use is marginal due to noxious weeds and continued western juniper encroachment; however, reduction of western juniper has occurred from treatments, improving native wildlife habitat.</p> <p>No major conflicts exist for wildlife within this allotment at this time. See Standard 5 narrative below for further discussion of wildlife activity and specific habitat attributes within allotment.</p> <p>Plants: Site specific plant surveys associated with current and historic projects have been conducted. To date, no Special Status Plants have been found.</p>		<p>Eagle foraging does occur within the allotment and are most common in and around wetland areas adjacent to Duncan Reservoir.</p> <p>Plants: This area was surveyed for special status plants and none were found.</p>

STANDARD 1 - Upland Watershed -Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

Meets Standard.

Trend studies conducted throughout the allotment in the past three field seasons (2013 to 2015) show upward trend throughout the allotment. This is evident by observed apparent trend (OAT), and photo trend monitoring. In 2006-2007, western juniper reduction treatments were conducted in the allotment. These treatments targeted sites where western juniper encroachment has entered sites or dominated sites where it historically would have been controlled by wildfires. Due to wildfire threat to property, coupled with the threat of invasive annual grasses, greater wildfire control efforts has led to unprecedented encroachment and expanse of western juniper in eastern Oregon. These western juniper sites expand at the expense of native understory vegetation including shrubs, perennial forbs, and perennial grasses. There is a direct correlation between loss of the diverse sagebrush understory due to western juniper encroachment, and a negative effect to diverse plant and wildlife habitat (USFWS 2013).

None of the previously established trend plots were located in western juniper treatment areas. In 2015, OAT and photos were established and taken in a western juniper treatment area. As evident by these monitoring efforts, these sites are dominated by native perennial forbs and grasses. In some of the treatment areas, the fallen western junipers were burned on site. Other areas, western junipers were fell and left to decompose. Both treatments have their merits, they

both return nutrients to the soils. Burning can reduce fuels, but can also reduce high value shrubs such as sagebrush, which is typically killed by fire. In the sites that were not burned, the fallen trees have provided microsites for the native grass and forb components. The juniper reduction has reinvigorated the sagebrush community, as there is less competition for limited water and nutrients.

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

Meets Standard.

The National Wetlands Inventory (NWI) classified approximately 166 acres of lacustrine water bodies or ponds in this allotment, as well as lotic or river systems. Duncan Reservoir is the largest lake within the allotment, and encompasses about 40 acres. A Proper Functioning Condition (PFC) assessment was conducted by the interdisciplinary team (IDT) in 2015. The team made a determination that the reservoir and the immediate vicinity of the Duncan Creek inlet were meeting PFC. This reservoir is not completely excluded from livestock grazing, but due to drift fences and natural barriers (rims), livestock have limited access to the south side of the reservoir and Duncan Creek.

The majority of the remaining lacustrine acres are found within six playas scattered across the allotment. One of the larger playas, Labrie Lake, is excluded from livestock grazing. The remaining five playas have constructed waterhole dugouts within the playa for livestock and wildlife watering. These are unvegetated, alkali lakebeds that seasonally-flood during the spring to early summer months when water is present. These playas continue to meet the lentic Proper Functioning Condition (PFC) where this is applicable. While stock ponds or dugouts continue to serve their intended purpose of providing seasonal water for both livestock and wildlife, they do not represent wetlands that are typically subject to the PFC methodology.

The lotic or river delineations consist of approximately 40 acres within the allotment associated with Duncan Creek. Though the creek inlet is influenced by the reservoir water elevation near its confluence with Duncan Reservoir, and contains water and riparian vegetation, the majority of the creek is intermittent, lacks riparian vegetation, and is, therefore not an appropriate site to assess using the PFC methodology.

The majority of Duncan Creek was treated for western juniper encroachment in 2006-2007. The trees were fallen using chainsaws and left in place to decompose. A portion of this treatment area was visited in 2015. The riparian area benefitted from the juniper treatment, as evident by vigorous stands of aspen, ponderosa pines, and understory vegetation observed. An assessment was not conducted recently, but IDT observations in 2015 concluded that the lower portion of the creek that has water is continuing to meet PFC.

The remaining ephemeral creeks in the allotment include Murdock Creek, East Dead Indian Creek and a couple of other un-named ephemeral creeks, generally lack riparian vegetation and are, therefore, not appropriate sites to assess using the PFC methodology.

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.

Meets Standard.

Vegetation: Trend data collected and analyzed for the past three field seasons (2013 to 2015) indicate that the majority of the allotment has an upward trend. The trend data collected supports the Ecological Site Inventory (ESI) observed apparent trend data in 1997 to 2001 that 86 percent of the allotment is in a static to upward trend (see Table 2, Appendix A).

Utilization data has been collected in this allotment annually for over 30 years. Table 1 (Appendix A) shows the past 23 years of Actual Use and Utilization data by pasture. Moderate or less (Moderate category is 40-60 percent) utilization is represented in all but one instance in the past 23 years. The one instance of heavy use (60-80 percent) occurred in 2003. This was an isolated incident and has not occurred again.

Light to moderate scattered infestations of *Bromus tectorum* (cheatgrass), *Taeniatherum caput-medusae* (Medusahead rye), and *Ventenata dubia* (North Africa grass) are present within the allotment. The majority of the moderate infestations are located within the southwestern part of the allotment in the Willow Pasture where the toolbox wildfire burned in 2002. Other weeds found around Duncan Reservoir include: *Cirsium arvense* (Canada thistle), *Cirsium vulgare* (bull thistle), *Carduus nutans* (musk thistle), *Centaurea stoebe ssp.* (Spotted knapweed), and *Salvia aethiopsis* (Mediterranean sage). This area has been targeted for weed treatment on a regular basis, including as recent as 2015.

This allotment should continue to have periodic inventories for these and other invasive species. If detected, non-native invasive plants will be treated in accordance with the most current integrated invasive plant management plan. As addressed under Standard 1 and 2 above, 3,810 acres of juniper treatments were conducted in 2006-2007 and appear to have been beneficial to native understory vegetation, riparian vegetation, and transitional ponderosa pine forest scattered throughout the allotment. Alleviating or reducing competition from invasive western juniper has helped retain or restore a more diverse native plant community.

Wildlife: This standard is currently being met from the aspect of natural wildlife populations, diversity, and sustainability with current environmental conditions. The majority of habitats within the allotment are in functional condition and support natural ecological processes. Habitat quality and population levels fluctuate over time, and generally represent natural trends in the ecosystem; however, some species may show erratic or negative trends. These trends are determined through monitoring of habitat and animal composition and community structure. In 2004 and 2015, the allotment was supporting the current and proposed number of Rocky Mountain elk, mule deer, and pronghorn antelope, as identified in ODFW big game management plans. This area continues to support diverse wildlife populations that are appropriate for the types of habitats available within the allotment.

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

Meets Standard.

At this time, the surface water and ground water within the allotment has not been listed for exceeding water quality Standards. A Lakeview IDT team made a determination in 2015 that Duncan Reservoir and the inlet above the reservoir were meeting PFC. This reservoir is not completely excluded from livestock grazing, but due to drift fences and natural barriers (rims), livestock have limited access to the south side of the reservoir and Duncan Creek. However, livestock grazing is not currently impairing water quality in this allotment.

STANDARD 5: Biological Diversity-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.

Meets Standard.

Plants: Sites within the allotment with potential habitat for special status plants have been visited and none have been located to date. See Botanist Report (Appendix A) for plant species list.

Wildlife: Habitats currently support healthy, productive, and diverse populations and communities of native plants and animals (including special status species and species of local importance) appropriate to soils, climate and landform.

Special status wildlife species or their habitats that are present within the allotment include the Bald Eagle (*Haliaeetus leucocephalus*), Ferruginous Hawk (*Buteo regalis*), Peregrine Falcon (*Falco peregrinus*), Burrowing Owl (*Speotyto cunicularia*), kit fox (*Vulpes macrotis*), Greater Sage-Grouse (*Centrocercus urophasianus*), and pygmy rabbit (*Brachylagus idahoensis*). There are also three species with high public interest. These are mule deer (*Odocoileus hemionus*), Rocky Mountain elk (*Cervus elaphus*) and pronghorn antelope (*Antilocapra americana*).

There are no known Bald Eagle nests within the allotment. One nest occurs south of the allotment on private lands. Bald Eagle foraging does occur within the allotment and is most common in and around wetland areas, and on scattered carrion. There is no nesting habitat for Peregrine Falcons; however, it is suspected that Peregrine Falcons are occasional visitors to the area. No incidental sightings of peregrines exist within the vicinity of the allotment. No surveys have been conducted for Ferruginous Hawk; however, foraging habitat exists through much of the allotment. Burrowing Owls may occur in the allotment; however no surveys for nest or observations have been conducted.

Very little habitat is present for kit fox and no known locations exist within the allotment for this species. No inventories have been conducted for kit fox within the allotment. The allotment is located outside of the species northern range. Dispersing juveniles may occur occasionally.

Pygmy rabbits are not known to occur in the allotment; however, it is suspected that pygmy rabbits occur in some isolated pockets within the allotment.

The eastern portion of the allotment is within Priority Habitat Management Area (PHMA), and the western portion is within General Habitat Management area (GHMA). There are 3 known sage-grouse lek sites within the allotment. Two leks are inactive sites and one is unknown. One active lek (Picture Rock Pass) is located within 4 miles of the allotment. Most sage-grouse use is marginal due to increasing noxious weeds and invasive western juniper. Some sage-grouse nesting does still occur within the allotment, but is greatly reduced from historic levels. In order for sage-grouse habitats to improve within the allotment, restoration of native sagebrush habitats must occur. A reduction in the amount of western juniper through treatments since 2004 has helped improve wildlife habitat. More western juniper treatments and control of noxious weeds is needed to reach optimal habitat potential. No major conflicts exist between cattle grazing and sage-grouse within this allotment at this time.

Mule deer inhabit much of the area. Large numbers of wintering mule deer exist within the allotment. The entire allotment is within identified mule deer winter range. Most conflicts with mule deer occur from livestock use of bitterbrush and from western juniper encroachment. Western juniper treatments occurred throughout 3,810 acres of the allotment in 2006-2007. Although these treatments have addressed western juniper encroachment for the time being, ongoing western juniper encroachment maintenance is recommended. Limiting early spring and fall livestock grazing reduces the impacts to winter mule deer habitats. Bitterbrush is abundant, but livestock use dates are adjusted to limit impacts on wintering mule deer. Continued western juniper invasion may decrease mule deer winter range conditions in the allotment.

Pronghorn antelope are common in the allotment. The western and northern portions of the allotment are within identified pronghorn habitat. Pronghorn use occurs in areas that have large openings with low sagebrush or short stature Wyoming big sagebrush. Increasing western juniper has decreased available habitats for pronghorn in several low sagebrush habitats within the allotment.

Elk are scattered throughout the western and southern portion of the allotment, but tend to use areas with higher densities of pines and aspens, and timbered drainages scattered within the allotment. The allotment is within identified elk habitat and winter range. There is some overlap between cattle and elk foraging areas, but there is little direct competition between these species within the allotment.

No known direct conflicts exist between wildlife and livestock grazing within this allotment. Overall, this standard is being met for wildlife species within the allotment. The occurrence of scattered areas of noxious weeds and invasive western juniper appear to be the limiting factors for sage-grouse, wintering mule deer and most sagebrush wildlife habitats. Efforts to improve habitat conditions should focus on control of noxious weeds (see Standard 3 vegetation section) and continued efforts to manage western juniper at pre-encroachment historic levels.

2015 ID Team Members

Name	Title
David Probasco	Wildlife Biologist
Grace Haskins	Weed Management Specialist
Ian Grinter	Botanist
James Leal	Fisheries Biologist
Michael Cutler	Rangeland Management Specialist
Theresa Romasko	Assistant Field Manager
Paul Whitman	Planning and Environmental Coordinator

Guidelines for Livestock Management

Existing grazing management practices and levels of grazing use on the Dead Indian-Duncan Allotment are consistent with the Guidelines for Livestock Grazing Management (August 12, 1997). The pastures within the allotment continue to be grazed under a rest rotation grazing system, and are provided periodic growing season rest. The rest enables grazed species to recover and provide adequate cover for infiltration, moisture storage and maintains diverse plant communities.

2014 Determination

(X) Existing grazing management practices on the Dead Indian-Duncan 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.

() Existing grazing management practices on the Dead Indian-Duncan Allotment will require modification or change prior to the next grazing season to promote achievement of the Oregon Standards for Rangeland Health and conform with the applicable Guidelines for Livestock Grazing Management.

Theresa Romasko (acting)

J. Todd Forbes
Field Manager
Lakeview Resource Area

8/19/2015
Date

Appendix A: Dead Indian-Duncan Allotment Monitoring Summary 2015 (see Lakeview BLM Monitoring Files for Raw Data):

Table 1. Actual Use and Utilization by Pasture

Year	Duncan Creek (Murphy) AUMs	% Utiliz.	Rim Rock Lake AUMs	% Utiliz.	West Duncan AUMs	% Utiliz.	Picture Rock (Hwy) AUMs	% Utiliz.	Willow Ck AUMs	% Utiliz.	Weaver * Permitted Active AUMs	McDowell Permitted Active AUMs	Total Actual Use AUMs	Total Permitted Active AUMs
2014		3	86	3	54	15		26		0				
2013									29	0	194	230	29	424
2012							62	23	45		194	230	107	424
2011	61		133		102						194	230	296	424
2010							113	17			194	230	113	424
2009	95		133	43							194	230	228	424
2008							146	70	229		352	230	375	582
2007	45	45	0	3	222		0		0	3	352	230	267	582
2006	0		107	53	49	26	71	26	0		352	230	227	582
2005	0		0		0		296	13	200	30	352	230	496	582
2004	0	42	68	45	0		0		0		352	230	68	582
2003	111	68	36	56	149	30	0		0		352	230	296	582
2002	65	46	0		273		0		0		352	230	338	582
2001	76	52	0		0		184		180		352	230	440	582
2000	0		176	42	158		0		164		352	230	498	582
1999	0		113		0		147	30	120	26	352	230	380	582
1998	0	35	180		237		0		99	24	352	230	516	582
1997	0		141		0		178		204		352	230	523	582
1996	0		247	29	303		0		0		355	230	550	585
1995	0		0		0		0		0	48	355	230	0	585
1994	145		180		0	36	0		0		355	230	325	585
1993	0		0	27	0		0		0	14	355	230	0	585

Year	Duncan Creek (Murphy) AUMs	% Utiliz.	Rim Rock Lake AUMs	% Utiliz.	West Duncan AUMs	% Utiliz.	Picture Rock (Hwy) AUMs	% Utiliz.	Willow Ck AUMs	% Utiliz.	Weaver * Permitted	McDowell Permitted	Total Actual Use AUMs	Total Permitted Active
											355	230	156	585
*Prior to 2009 this Permit was Murphy's.														
		24		26		21		29		8			238	
		48		37		31		29		21			260	

Table 2. Dead Indian-Duncan Allotment Trend Summary 2015

Transect	Date	Pasture	Composition	Cover
DIW-1 photo trend and OAT	5/27/2015	Willow	Upward trend	Upward trend
DD-1 photo trend and OAT	7/31/2013	Willow	Upward trend	Upward trend
DD-2 photo trend and OAT	7/25/2013	Rim	Upward trend	Upward trend
DD-3 photo trend and OAT	6/12/2013	West Duncan	Upward trend	Upward trend
DD-4 photo trend and OAT	7/31/2013	West Duncan	Upward trend	Upward trend
DID Post JUOC tmt area	5/27/2015	Willow and Duncan Creek	Upward trend	Upward trend

Permanent photo monitoring plots were established in this allotment in the mid 1960's and 1970's. These monitoring plots continue to be read. Summaries of the most recent monitoring efforts are described in Table 2. Photos (digital and hardcopy) are available at Lakeview Interagency Office.

Observed apparent trend (OAT) studies began during the ESI inventory in 1997 in this allotment. They have continued to date in this allotment to supplement other existing monitoring efforts. Recent OAT ratings show an average score of 29/35 which represents an Upward Trend throughout the allotment (see Table 2). Plant vigor had an average of 8 out of 10. Seedlings of key forage species were rated at 8 out of 10. Surface litter was given an average rating of 5/5 with little or no movement of litter and little visible bare ground. The category of pedestaling was given an average score of 5/5. This score represents evidence of little erosion within the allotment. Gullies were rated primarily Not Applicable as the established monitoring plots were not located in or near existing gullies. This rating also is evidence that erosion beyond what is expected for the site is not occurring.

Plants species found in and adjacent to Dead Indian-Duncan Allotment

Botanist Report

Plant species in the assessment area were recorded on visits South of Highway 31 on November 19, 2003 and areas North of Highway 31 on December 8, 2003.

The following plant species were found: *Achillea millefolium*, *Agropyron intermedium*, *Agropyron spicatum* (*Pseudoroegneria spicata*), *Amelanchier alnifolia*, *Alyssum alyssoides*, *Arenaria* sp., *Antennaria* sp., *Arabis* sp., *Artemisia arbuscula*, *Artemisia tridentata* var. *tridentata*, *Artemisia tridentata* ssp. *vaseyana*, *Artemisia tridentata* ssp. *wyomingensis*, *Astragalus* sp., *Atriplex* sp., *Bromus inermis*, *Calochortus macrocarpus*, *Carex rossii*, *Carex* sp., *Cercocarpus ledifolius*, *Chrysothamnus viscidiflorus*, *Cirsium* sp., *Collomia grandiflora*, *Cryptantha* sp., *Danthonia unispicata*, *Descurainia* sp., *Distichlis spicata* var. *stricta*, *Eleocharis* sp., *Elymus cinereus*, *Elymus elymoides*, *Elymus triticoides*, *Epilobium* sp., *Eriastrum sparsiflorum*, *Ericameria nauseosa*, *Erigeron* sp., *Eriogonum* sp., *Festuca idahoensis*, : *Gayophytum* sp., : *Iva axillaries*, *Juncus* sp., *Juniperus occidentalis*, *Koeleria pyramidata* (*Koeleria macrantha*), *Letharia* sp., *Letharia* sp. on junipers, lichens (on rocks), *Lomatium* sp., *Lupinus* sp., mosses (riparian), soil mosses, *Mentzelia albicaulis*, mosses (on rocks),

Muhlenbergia richardsonis, *Oryzopsis hymenoides*, *Penstemon* sp., *Phacelia* sp., *Phlox diffusa*, *Phlox gracilis*, *Phlox hoodii*, *Phlox longifolia*, *Phlox* sp., *Pinus ponderosa*, *Poa secunda*, *Polygonum* sp., *Populus tremuloides*, *Potentilla* sp., *Purshia tridentata*, *Ribes cereum*, *Ribes* sp., *Salix* sp., *Rumex* sp., *Sarcobatus vermiculatus*, *Sidalcea* sp., *Stipa comata*, *Stipa columbiana*, *Stipa occidentalis* (*Achnatherum occidentale*), *Stipa thurberiana* (*Achnatherum thurberianum*), *Tragopogon dubius*, *Verbascum thapsus*, and *Zigadenus venenosus*

Notable additions to the plant list from the 2015 field visit include: *Agoseris* sp., *Bromus tectorum*, *Cirsium arvense*, *Heuchera cylindrica*, *Orobanche uniflora*, *Potentilla newberryi*, *Ventanata dubia*,

Appendix B: Literature Cited

USFWS 2013. Why Care About America's Sagebrush? Document accessed 08/12/2015.
<http://www.sagegrouseinitiative.com/wp-content/uploads/2013/07/sagebrushfactsheet-USFWS.pdf>