

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

Rangeland Health Assessment Update for the  
Ward Lake Allotment #00704

September 2014

*(Minor corrections made to Table 1 in December 2014; see underlined text)*

The original Ward Lake Allotment Rangeland Health Assessment was conducted in 2004. This assessment includes the West and South pastures used by Iverson and the North and East pastures used by Brown. There are 397 active AUMs of forage allocated and 101 AUMs of suspended use (Brown Permit) on 13,105 acres of public land and 3,143 lands of other land. The allotment is grazed in the spring and summer under a rest rotation grazing system.

There are 8 long-term trend photo plots in the allotment and a summary of these trend plots in Table 2. There are three of the long term trend plots associated with a vegetation transect consisting of a Nested Frequency transect and photos. These transects were established in 1987 in the East and Middle pastures and in 1993 in the South Pasture. Vegetation data for three transects are summarized in Tables 3-5. There were new vegetation transects established at four of the long-term trend plots in 2012.

A summary of the health assessment of 2004 and an updated assessment is shown in the Table 1.

**Table 1. Summary of Rangeland Health Assessments (RHA) for Ward Lake Allotment**

Standard	2004	2014	Comments
<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>	Met	Met	<p>The 2004 RHA found soils in the Ward Lake Allotment exhibited infiltration and permeability rates, moisture storage, and stability appropriate for soil, climate, and land form. Root occupancy for the soil was appropriate. Based on 1997-2001 ESI data, the SSF rating showed 46% of the allotment was in slight, 24% in moderate, and only 0.1% in the critical erosion classes. There was little or no active soil erosion or evidence of past erosion in the area. In 2013, a summary of the vegetation trend plots indicated the vegetation cover was stable and there was still little or no active soil erosion.</p> <p>In 2013, the average actual use for the allotment over 11 years was 366 AUMs, compared to the average actual use of 402 AUMs in 12 years prior to 2002. The authorized use for the allotment is 397 AUMs. In 2013, the average utilization across the allotment on native species was between 39-45%. These utilization levels indicate that sufficient plant material was being left behind to protect the soil from erosion.</p> <p>The average utilization levels and the average actual use from 2002 to 2013, combined with season-long rest every other year, indicate there is sufficient plant material remaining on the soil to prevent soil erosion. For these reasons, this standard continues to be met.</p>
<p><b>2. Watershed Function -Riparian/ Wetland Areas</b></p> <p>(Riparian-wetland areas are in properly functioning physical condition appropriate to soil, climate, and landform)</p>	Met	Met	<p>In 2004, there was 510 acres of palustrine wetlands identified within a much larger area (15 allotments in Silver Lake area) that included the Ward Lake Allotment. All were determined to be in PFC condition. In 2014, an interdisciplinary team identified 26 acres of palustrine wetlands in the allotment and, based on field inventory all were found to be in PFC.</p> <p>Buck Creek is within the allotment, but has been excluded from grazing since 1989. In 1996, an interdisciplinary team determined the portion of Buck Creek in the Ward Lake allotment was in PFC. In 2014, Buck Creek is still excluded from grazing and is still in PFC. Continued monitoring indicates the condition is continuing to improve.</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)</p>	Met	Met	<p>In 2004, a review of the range monitoring data (photos, trend transects, climate, field observations) ESI data, wildlife inventories, botany reports, weed surveys, and professional judgment indicated that overall the area was meeting this standard. Indicators used to evaluate this standard included animal populations, vegetative composition, presence of weed species, botanical reports, ecological status, Observed Apparent Trend (OAT), current plant composition as compared to a defined Potential Natural Community (PNC) for the soil type and precipitation zone. SSF, OAT, Range Site, Seral Stage and PNC are from the Lake County ESI survey (1997-2001). Based on ESI, 51% of the native plant communities were in Late Seral, 19% were in Mid Seral, and</p>

<p>are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle).</p>			<p>0.1% were in Early Seral (Table 6).</p> <p>OAT is a one-time trend for the area determined in the 1997-2001 ESI survey. The allotment showed 7% had an upward trend, 47% had a static trend and 17% had a downward trend. The majority of downward trend can be attributed to high levels of cheatgrass, medusahead rye, and western juniper. The downward trend was a reflection of historical grazing, fire suppression, and weed species invasion and was not attributed to current livestock management.</p> <p>In the 2004 RHA, an ID team made the following observations about the current plant communities: overall plant diversity was high with shrubs and grasses in excellent condition.</p> <p>There are 9 trend photo plots scattered around the allotment which began in the 1970s or 1980s and continue today. These photos illustrated the plant communities are either stable or improving across the allotment. The vigor, condition, and composition of the vegetation in the photos were influenced by the amount of moisture, the grazing schedule, and juniper cutting. Even taking into account these factors, the ecological condition of these sites has either remained stable or improved over the last 30 years, except that there has been an increase in juniper density and size across the allotment. In 2014, an analysis of the photo trend plots since 2004 found the same conclusions apply. (Table 1). In Tables 3-5 is a summary of the vegetation transects on the three trend plots (WL-06, WL-08 and WL-09). The same species appear to be present and the three trend sites appear to have a static trend.</p> <p>Prior to 2014, only one noxious weed species was located within the Ward Lake allotment, Scotch broom (<i>Cytisus scoparius</i> (L.) Link). The infestation was located along Buck Creek in the Buck Creek Enclosure. This species is very uncommon to the Eastern portion of Oregon. The location of the Scotch broom site is along Buck Creek riparian area. The site was discovered by the Lakeview RA staff during a river survey. The site was controlled manually and will continue to be monitored. There were no plants present in 2014.</p> <p>During the 2014 invasive plant survey musk thistle (<i>Carduus nutans</i> L.) was found along Buck Creek within the Buck Creek Enclosure, the south pasture within the riparian area, and in the east pasture. All of the infestations are currently small and were manually controlled during the 2014 field season. These sites will continue to be monitored.</p> <p>Other species that could likely invade the allotment are Medusahead Rye (<i>Taeniatherum caput-medusae</i> (L.), Ventenata (<i>Ventenata dubia</i>), Mediterranean sage (<i>Salvia aethiopsis</i> L.), and Canada thistle (<i>Cirsium arvense</i> (L.) Scop). These species are all located adjacent to the allotment. The allotment will continue to be monitored for new populations.</p> <p>Standard 3 is being met for wildlife populations. 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. This area supports diverse wildlife populations that are appropriate for the types of habitats available within the allotment. This standard is currently being met from the aspect of natural wildlife populations, diversity, and sustainability with current environmental conditions.</p>
<p><b>4. Water Quality</b>  (Surface water and groundwater quality, influenced by agency</p>	<p>Met</p>	<p>Met</p>	<p>No surface water or groundwater within the allotment has been listed for exceeding State Water Quality standards.</p>

actions, complies with State water quality standards).			
<p><b>5. Native, Threatened &amp; Endangered, 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>	Met	Met	<p>The 2004 RHA stated the allotment contained healthy, productive, and diverse plant and animal populations and communities that were appropriate to soil, climate, and landform.</p> <p>No Special Status Plant Species located within the allotment.</p> <p>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 the juxtaposition with the wetland areas adjacent to the eastern boundary and the ponderosa pine forest transitional zone along the western edge of the allotment, providing additional habitat diversity.</p> <p>Special status wildlife species or their habitats that may be present within the 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>), Townsend's big-eared bat (<i>Coryorhinus townsendii</i>), fringed myotis (<i>Myotis thysanodes</i>), pallid bat (<i>Antrozous pallidus</i>), spotted bat (<i>Euderma maculatum</i>), and pygmy rabbit (<i>Brachylagus idahoensis</i>).</p> <p>There are 3 known Bald Eagle nests within the allotment. One nest occurs on Forest Service-administered lands and 2 on BLM-administered lands. There is also some foraging on scattered carrion within the allotment. There have not been any incidental sightings of Peregrine Falcons in the vicinity of the allotment; although, they may be occasional visitors to the allotment, no nesting habitat or actual nesting activity has been documented within the allotment. Foraging habitat does not exist within close proximity of the allotment. While foraging habitat for Ferruginous Hawk was identified in the 2004 assessment, this species has not actually been confirmed within the allotment to date. Burrowing Owls have been observed at a few locations within the allotment, however no nest burrows have been observed.</p> <p>Roosting and wintering (hibernacula) habitat for the 4 Bureau Sensitive Species of bats is limited or lacking throughout the allotment. Kit fox and pygmy rabbits, both BLM sensitive species, are also known to occur within the Lakeview Resource Area. The potential for the presence of kit foxes is very low as the allotment lies outside the northern range of the kit fox. Although, pygmy rabbits are suspected to occur in some isolated pockets within the allotment, there have been no inventories or incidental sightings.</p> <p>No Greater Sage-Grouse leks occur within or near the allotment based on the 4-mile proximity criterion, and the allotment does not contain preliminary priority or general habitat and ODFW core or low density habitat.</p> <p>There are several species with high public interest. These include Golden Eagle (<i>Aquila chrysaetos</i>) mule deer (<i>Odocoileus hemionus</i>), and Rocky Mountain elk (<i>Cervus elaphus</i>). In 2004 and 2013, the allotment supported the current and proposed number of mule deer identified by ODFW big game management plans. Elk and mule deer winter range occurs within this allotment. Migratory ungulates may be affected in winter months if grazing pressure negatively impacts availability of shrub (palatable and nutritious) vegetation.</p> <p>Golden Eagles (BOC species) have been seen within the area foraging on small mammals. One Golden Eagle nest occurs within the allotment on private lands.</p> <p>Elk are scattered throughout the allotment, but tend to use areas with higher densities of western juniper and timbered drainages. There is some overlap between cattle and</p>

		<p>elk foraging areas, but there is little competition between these species within the allotment.</p> <p>Moderate to high concentrations of wintering mule deer occur in the allotment. Wintering deer depend on bitterbrush and big sagebrush as winter forage. Both of these browse species are common within the allotment. There is no evidence showing impacts from grazing on mule deer foraging and winter range. Invasive juniper has decreased mule deer winter range conditions in portions of the allotment.</p> <p>In 2004, no conflicts were identified between livestock grazing and wildlife species. Currently, there are no known resource conflicts between the current livestock grazing management and habitat for Peregrine Falcons, Bald Eagles, Ferruginous Hawks, Burrowing Owls, Golden Eagles, bat species, kit foxes, pygmy rabbits, or elk. Meeting the mule deer browse utilization objective established in the RMP/ROD is sufficient to maintain adequate bitterbrush densities within the allotment and avoid a conflict with livestock management.</p> <p>For these reasons, this standard is being met for wildlife species (including special status species) and their habitat. However, the occurrence of invasive western juniper appears to be the limiting factor for sage-grouse, wintering mule deer, and most sagebrush obligates. Habitat management actions need to focus on control and reduction of western juniper to historic levels to insure meeting this standard in the future.</p>
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**2014 Team Members**

Name	Title
Les Boothe	Rangeland Management Specialist
David Probasco	Wildlife Biologist
Theresa Romasko	Assistant Field Manager
Grace Haskins	Weed Management Specialist
Jimmy Leal	Fisheries Biologist
Ian Grinter	Botanist

**Guidelines for Livestock Management**

Existing grazing management practices and levels of grazing use on the Ward Lake 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 growing season rest every other year. The grazing season rest enables the grass species to provide adequate cover for infiltration, moisture storage and maintains diverse plants communities.

**2014 Determination**

(X) Existing grazing management practices on the Ward Lake 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 Ward Lake 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.

*J. Todd Forbes*  
J. Todd Forbes, Field Manager

9/29/14  
Date

## Ward Lake Allotment Monitoring Summary (2014)

In 2014, two pastures (North and South) in Ward Lake Allotment were utilized from May 1 to June 10 and two pastures (Middle and East) were rested. The Ward Lake Allotment has 397 Active AUMs and 101 suspended AUMs. The average actual use from 2003-2013 was 366 AUMs and target utilization level is 50%.

**Table 1. Actual Use and Utilization in Ward Lake Allotment**

Year	North Pasture		East Pasture		South Pasture		Middle Pasture	
	AUMs	% Utilization	AUMS	% Utilization	AUMS	% Utilization	AUMS	% Utilization
2013	96		REST		219		REST	
2012	REST		136	49%	REST		189	32%
2011	150	49%	REST		189	21%	REST	
2010	REST		144	29%	REST		226	50%
2009	141		REST		226		REST	
2008	REST		146		REST		239	
2007	146		REST		259	30%	REST	
2006	REST		148		REST		269	
2005	145		REST		239	48%	REST	
2004	REST		150		REST		281	54%
2003	38	39%	28		226	60%	REST	
<b>Total</b>	<b>716</b>		<b>752</b>		<b>1358</b>		<b>1204</b>	
<b>Ave.*</b>	<b>119</b>	<b>44%</b>	<b>125</b>	<b>39%</b>	<b>226</b>	<b>40%</b>	<b>241</b>	<b>45%</b>

\* The average AUMs number was only for the years the pasture was grazed and does not include the rest years.

Utilization in the Ward Lake Allotment only exceeded the target utilization rate of 50% in 2003 in the South Pasture (60%) and in the Middle Pasture in 2004 (54%).

The total active AUMs (average of 366) did not exceed the permitted active AUMS (397) AUMS) for the four pastures. The highest AUMs of use was 431 AUMs in 2004. The active use in 2004, 2006, and 2007, though higher than permitted active use, was authorized as Temporary Non Renewable (TNR) use.

There are 8 permanent, long-term photo trend plots in the allotment with 3 containing a vegetation transect (Table 2). The vegetation transect at all three trend plots (WL-06, WL-08 and WL-09) had a static trend.

**Table 2. Ecological Trend by Pasture Based on Long-term Monitoring Photos and Plots**

<b>Pasture</b>	<b>Monitoring plot#</b>	<b>Photo Trend Years Taken</b>	<b>Transect Method Years</b>	<b>Trend</b>
<b>Middle</b>	WL-01	Photo 12 Years 1975-2012	Nested Frequency & Canopy Cover Established 2012	Trend Upward 1975-2012 Sagebrush, Bitterbrush and Juniper density increasing
<b>Middle</b>	WL-04	Photo 11 Years 1975-2012	Nested Frequency & Canopy Cover Established 2012	Upward Trend 1975-2003 Static Trend 2003-2012 Sagebrush and Juniper density has increased
<b>Middle</b>	WL-05	Photo 9 Years 1975-2012	Nested Frequency & Canopy Cover Established in 2012	Static Trend
<b>Middle</b>	WL-06	Photo 5 Years 1987-2011	Frequency Transect 3 years 1987, 1991, and 2011	Trend Static
<b>East</b>	WL-08	Photo 5 Years 1987-2012	Frequency Transect 3 years 1987, 1991, and 2012	Trend Static
<b>South</b>	WL-02	Photo 10 Years 1975-2011	Photo	Trend Upward
<b>South</b>	WL-03	Photo 11 Years 1975-2012	Nested Frequency & Canopy Cover Established in 2012	Trend Static 1975-81 Trend Upward 1987-2012 Recent Juniper cut has Trend Improving
<b>South</b>	WL-09	Photo 3 Years 1993, 1997, 2011	Frequency Transect 2 years , 1993 and 2011	Trend Static



**Table 3. Summary of ESI Data for Ward Lake Allotment Collected 1998-2001**

Vegetation Community	Total Acres	% of Veg Comp	Soil Surface Factor (SSF) Acres*			Observed Apparent Trend (OAT) Acres**			Acres of Vegetative Community in Seral Stage			
			Slight	Moderate	Critical	Down	Static	Up	PNC	Late	Mid	Early
ARCA/MUWR Silver sagebrush/Mat muhly	13	0.1%			13	13						13
ARTRV/FEID Mountain Big sagebrush/Idaho fescue	34	0.2%	34					34		34		
ARTRV/STCO Mountain Big sagebrush/Thurbers needlegrass	54	0.3%	54			54					54	
<b>Total Mountain big sagebrush</b>	<b>88</b>	<b>0.6%</b>	<b>88</b>	<b>0</b>	<b>13</b>	<b>54</b>	<b>0</b>	<b>34</b>	<b>0</b>	<b>34</b>	54	0
JUOC/ARAR/DAUN Western juniper/Low sagerbrush/	2241	14%	2241				2241			2241		
JUOC/ARAR/PSSPS Western juniper/Low sagerbrush/	2709	17%		2709			2709			2709		
JUOC/CHNA/BRTE Western juniper/Rubber rabbitbrush/cheatgrass	375	2%	375			375					375	
JUOC/ARTRV/BRTE Western juniper/mountain big sagebrush/cheatgrass	47	0.3%		47			47			47		
JUOC/ARTRV/PSSPS Western juniper/mountain big sagebrush/bluebunch wheatgrass	109	0.7%	109					109	109			
JUOC/ARTRV/STCO Western juniper /Mountain Big sagebrush/needle and thread	383	2%	383			383					383	
JUOC/ARTRV/STTH Western juniper /Mountain Big sagebrush/Thurbers needlegrass	366	2%	366					366			366	
JUOC/PUTR/FEID Western juniper/antelope bitterbrush/Idaho fescue	344	2%		344			344			344		
JUOC/PUTR/STTH Western juniper/antelope bitterbrush/Thurbers needlegrass	949	6%	949				949			949		
<b>Total Western juniper</b>	<b>7523</b>	<b>47%</b>	<b>4423</b>	<b>3100</b>	<b>0</b>	<b>758</b>	<b>6290</b>	<b>475</b>	<b>109</b>	<b>6290</b>	<b>1124</b>	<b>0</b>
PIPO/FEID Pondosa oine/Greenleaf Manzanitan	216	1%	216				216			216		
PIPO/CELE/FEID Pondosa oine/mount mahogasny/Idaho fescue	889	6%	889					889		889		
<b>Total ponderosa pine</b>	<b>1105</b>	<b>7%</b>	<b>1105</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>216</b>	<b>889</b>	<b>0</b>	<b>1105</b>	<b>0</b>	<b>0</b>
<b>Total Mapped Vegetation</b>	<b>8729</b>	<b>54%</b>	<b>5616</b>	<b>3100</b>	<b>13</b>	<b>1774</b>	<b>5557</b>	<b>1398</b>	<b>109</b>	<b>7429</b>	<b>1178</b>	<b>13</b>
Unknown ,transition zones, rock outcrops	7406	46%										
<b>Total</b>	<b>16,135</b>											

\* The erosion condition classes are based on numeric scoring system which considers soil movement, surface litter, surface rock, pedestalling, flow patterns, rills and gullies.

\*\* The Observed Apparent Trend (OAT) is a numerical rating which considers vigor, seedlings, surface litter, pedestals and gullies to estimate the trend of a particular site and SWA.

**Table 4. Ward Lake Trend Monitoring Summary (Middle Pasture WL-06)**

YEAR	1987	1991	2011
	<b>Percent Ground Cover</b>		
Bareground	38.4%	36%	20%
Litter	50.2%	52%	77%
Rock	0	0	0
Vegetation	11%	12%	3%
	<b>Ground Cover by Species</b>		
Species			
SIHY	2.7%	N/A	0
STTH	1.0%	N/A	0
ARTRW	0	N/A	2%
BRTE	6.2%	N/A	0
CARO	1.1	N/A	0
Cryptogram (Moss)	N/A	N/A	1%
CHNA	N/A	N/A	T
CHVI	N/A	N/A	T
	<b>CANOPY COVER BY SPECIES</b>		
CHNA	3.9%		3.1%
CHVI	7.5%		6.4%
ARTR	1.3%		4.3%
<b>TOTAL CANOPY</b>	<b>12.7%</b>		<b>13.8%</b>
	<b>Relative Frequency by Species</b>		
Species			
STTH	7.5%	53%	17%
ARTRW	**	37%	7%
SIHY	81%	75%	10%
FEID	**	25%	0
Phlox	**	4%	0
AGCR	**	7%	0
AGSP	**	3%	0
BRTE	**	0	96%
CHNA	**	2%	11%
FORBS	**	33%	57%
Carex	**	53%	0
CHVI	**	28%	56%

\*\* In 1987, only the STTH and SIHY frequency was measured, so it doesn't mean the other species were not present, they were not recorded, so there is no way to know if they were present or in what amount.

**Table 5. Ward Lake Allotment Nested Frequency Summary (WL-08 East Pasture)**

YEAR	1987	1993	2012
BAREGROUND	33%	30%	23%
ROCK	1%	1%	0
LITTER	55%	56%	35%
VEGETATION	11%	13%	41%
SPECIES	PERCENT COVER BY SPECIES		
SIHY	2%	N/A	T
CARO	1%	N/A	0
STTH	T	N/A	2%
AGSP	N/A	N/A	1%
KOCR	N/A	N/A	0
FEID	1%	N/A	1%
B RTE	7%	N/A	0
ARTRW	N/A	N/A	37%
CANOPY COVER BY SPECIES			
ARTRW	22%	N/A	44%
PUTR	1%	N/A	0
CHNA	3%	N/A	0.1%
CHVI	1%	N/A	0
SPECIES	RELATIVE FREQUENCY BY SPECIES		
SIHY	36%	72%	6%
POSE	**	0	3%
STTH	11%	25%	28%
AGSP	**	8%	8%
CHVI	**	30%	19%
CHNA	**	2%	3%
FEID	14%	10%	19%
ARTRW	**	59%	62%
Carex	**	38%	4%
ELCI	**	2%	0
Lupine	**	0	2%
JUOC	**	0	1%

\*\* In 1987 only the STTH and SIHY frequency was measured, so it doesn't mean the other species were not present , they were not recorded, so there is no way to know if they were present or in what amount

**Table 6. Ward Lake Allotment Nested Frequency Summary  
(WL-09 South Pasture)**

<b>YEAR</b>	<b>1993</b>	<b>2012</b>
BAREGROUND	55%	42%
ROCK	0	0
LITTER	37%	57%
VEGETATION	8%	1%
<b>SPECIES</b>	<b>PERCENT COVER BY SPECIES</b>	
SIHY	N/A	0
CARO	N/A	0
STTH	N/A	1%
AGSP	N/A	0
KOCR	N/A	0
FEID	N/A	0
BRTE	N/A	0
ARTRW	N/A	0
	<b>CANOPY COVER BY SPECIES</b>	
ARTRW	N/A	%
PUTR	N/A	0
CHNA	N/A	0
CHVI	N/A	0
<b>SPECIES</b>	<b>RELATIVE FREQUENCY BY SPECIES</b>	
SIHY	62%	29%
POSE	13	2%
STTH	53%	60%
AGSP	6%	3%
CHVI	15%	4%
CHNA	3%	0
FEID	3%	3%
ARTR	3%	4%
Carex	52%	0
KOCR	0	10%
Lupine	0	7%

\*\* In 1987 only the STTH and SIHY frequency was measured, so it doesn't mean the other species were not present , they were not recorded, so there is no way to know if they were present or in what amount