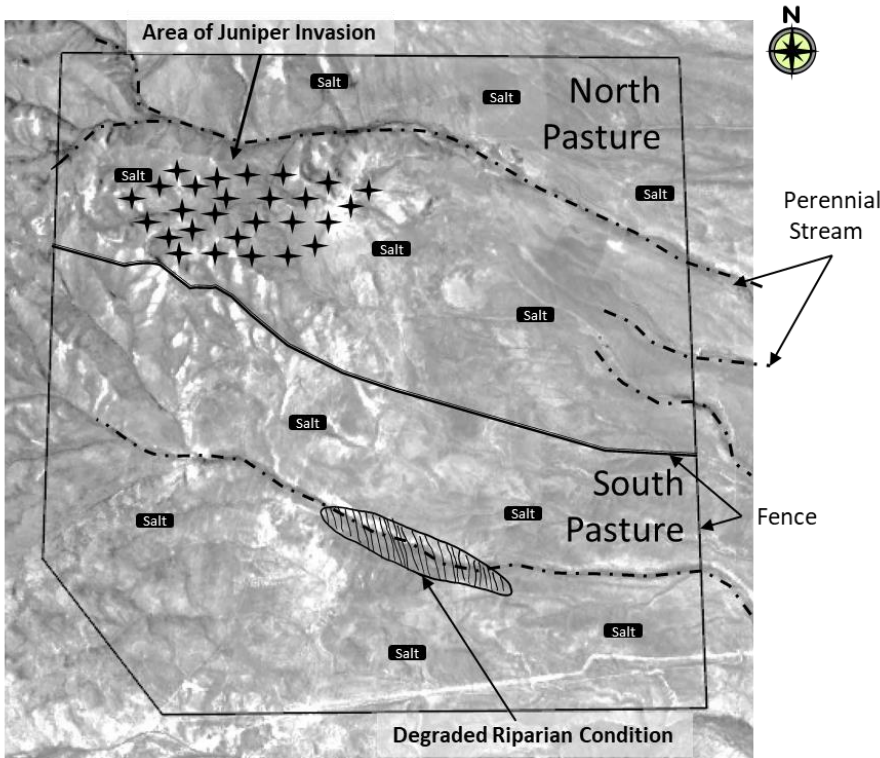


Part 1A - Stocking Rate and Management Recommendations (90 points)

West Creek Ranch



The West Creek Ranch is a 6756-acre unit near Elko, NV owned and managed by a mining company with the goal of maintaining healthy lands for livestock and wildlife. It is used in the spring and fall by 1400 yearling cattle as they move from lower elevation BLM allotments grazed in winter to higher elevation U.S. Forest Service allotments grazed in summer. The ranch is about equally divided into two pastures (North and South).

Grazing Plan:

- Each spring yearling cattle weighing about 620 lbs are moved from winter range into the North pasture where they graze from mid-May through the end of June (45 days) at which time they weigh about 660 lbs on average. A herder is with the cattle every day and they are slowly herded higher in elevation from east to west in this pasture. At the end of June cattle are moved off the ranch to graze on summer range.
- In late summer, cattle are moved off their summer allotments weighing about 750 lbs. into the South pasture where they graze each fall from Mid-August through the end of September (45 days) when they weigh on average 850 lbs and are moved to feedlot. A herder is with the cattle during this fall grazing period moving them slowly from west to each.

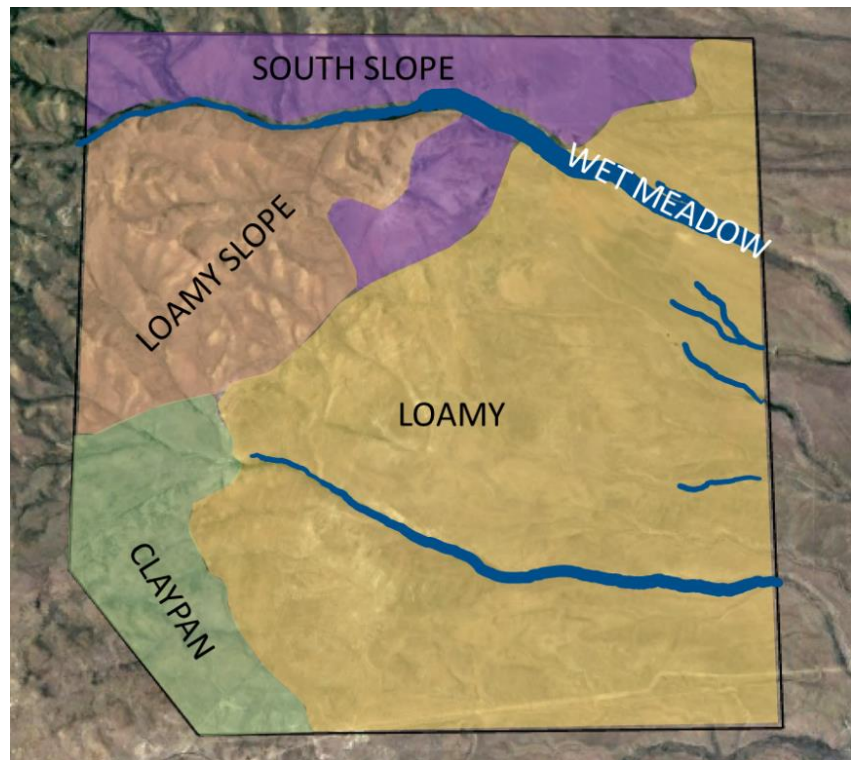
Management Concerns:

- There is an area in the North Pasture where juniper density is increasing to nearly 25% canopy cover which is damaging watershed health and sage-grouse habitat.
- There is an area along a stream in the South Pasture where the stream is shallow with little vegetation along the banks and is susceptible to erosion and downcutting.

Vegetation Information for West Creek Ranch.

Ecological Sites Include:

- South Slope
- Loamy Slope
- Loamy
- Claypan
- Wet Meadow



Map Color	Ecological Site	Total acres for each site	Total dry-weight production		
			Favorable year pounds/acre	Normal year pounds/acre	Unfavorable year pounds/acre
Purple	SOUTH SLOPE	1080	1,300	900	700
Orange	LOAMY SLOPE	1353	1,400	1,000	700
Gold	LOAMY	3378	1,000	800	600
Green	CLAYPAN	675	800	650	450
Blue	WET MEADOW	270	3,000	1,700	1,000

In a **favorable year**, the amount and distribution of precipitation and the temperature make growing conditions substantially better than average. In a **normal year**, growing conditions are about average. In an **unfavorable year**, growing conditions are well below average, generally because of low available moisture. Calculate forage supply for a **NORMAL YEAR**

Ecological Site	Plants expected to occur on Ecological Site:	Recommended Utilization for Proper Use
SOUTH SLOPE	Grasses include bluebunch wheatgrass, basin wildrye, Thurber's needlegrass, Idaho fescue, and Sandberg bluegrass. Shrubs include antelope bitterbrush, mountain big sagebrush. Many miscellaneous perennial forbs.	45%
LOAMY SLOPE	Grasses include Idaho fescue, bluebunch wheatgrass, basin wildrye, Sandberg bluegrass, and other perennial grasses. Shrubs include mountain big sagebrush, antelope bitterbrush, and other shrubs. Forbs include arrowleaf balsamroot and other perennial forbs.	45%
LOAMY	Grasses include bluebunch wheatgrass, Thurber's needlegrass, basin wildrye, Sandberg bluegrass, and other perennial grasses. Shrubs include big sagebrush, antelope bitterbrush and other shrubs. Forbs include a variety of perennial forbs.	45%
CLAYPAN	Grasses include Idaho fescue, bluebunch wheatgrass, bluegrass, and other perennial grasses. Shrubs include early sagebrush, antelope bitterbrush, low sagebrush, and a variety of other shrubs. Several perennial forbs should be present.	40%
WET MEADOW	Graminoids include tufted hairgrass, alpine timothy, Sandberg bluegrass, and sedges. Few shrubs present. Forbs include a variety of cinquefoil, cows clover, and other perennial forbs.	50%

Key for 2019 – Grazing Management Problem

Part 1A - Stocking Rate and Management Recommendations (90 points)

Supply of usable forage = 2,667,330 pounds **AND** 3,556 AUMs 30 pts

Forage demand = 2,268,000 pounds **AND** 3,024 AUMs 30 pts

Determine if the stocking rate is appropriate for the site. You must show your work in order to receive full credit. (Check appropriate box) 10 pts

- Decrease Stocking Rate
 Increase Stocking Rate
 Keep Rate the Same

Space for Calculations:

Supply of Usable Forage - Lbs

Map Color	Ecological Site	Total acres for each site	Total dry wt production in normal year (lbs)	Dry wt production per site (lbs)	Utilization Level for Proper Use	Available forage per site (lbs)	
Purple	SOUTH SLOPE	1080	900	972,000	45%	437,400	
Orange	LOAMY SLOPE	1353	1,000	1,353,000	45%	608,850	
Gold	LOAMY	3378	800	2,702,400	45%	1,216,080	
Green	CLAYPAN	675	650	438,750	40%	175,500	
Blue	WET MEADOW	270	1,700	459,000	50%	229,500	
Total=		6756	Total Production=	5,925,150	Available Forage=	2,667,330	
						Pounds	
						Divide by 750 lbs=	3,556
						AUMs	

Total Forage Demand - based on pounds of body weight

	Begin wt (lbs)	End wt (lbs)	Average wt (lbs) Over Season	Average eaten per day/animal	Days of grazing/season	Amount eaten /animal (lbs)	
Yearling in Spring (North Pasture)	620	660	640	16	45	720	
Yearling in Fall (South Pasture)	750	850	800	20	45	900	
						Amount eaten (lbs)/animal/season=	1620
						Pounds required for 1400 animals=	2,268,000 Pounds
						Total AUMs (divide by 750 lbs)=	3,024 AUMs

Total Forage Demand - based on AUMs

	Number of Animals	Anim. Unit Equiv.	Number of Months Over Season	Total AUMs	Days of grazing/season	Amount eaten /animal (lbs)
Yearling in Spring (North Pasture)	1400	0.64	1.5	1344	45	60480
Yearling in Fall (South Pasture)	1400	0.8	1.5	1680	45	75600
Total AUMS Spring + Fall=				3,024	AUMs	
Pounds of Demand (multiply by 750 lbs)				2,268,000	Pounds	

Choose the correct management activities that apply to improve this site (Select "Yes" for all that apply and select "No" for all that do not; 2pts each) 20 pts

Yes | No

Yes | No

- | | |
|---|---|
| <input type="checkbox"/> <input checked="" type="checkbox"/> Defer from spring grazing | <input checked="" type="checkbox"/> <input type="checkbox"/> Control brush, trees and/or noxious weeds |
| <input type="checkbox"/> <input checked="" type="checkbox"/> Rest from grazing for a growing season | <input type="checkbox"/> <input checked="" type="checkbox"/> Seed or interseed with adapted species |
| <input checked="" type="checkbox"/> <input type="checkbox"/> Install a rotation grazing system | <input type="checkbox"/> <input checked="" type="checkbox"/> Reduce human recreation activities on site |
| <input type="checkbox"/> <input checked="" type="checkbox"/> Add or revise fencing | <input type="checkbox"/> <input checked="" type="checkbox"/> Manage for endangered species |
| <input type="checkbox"/> <input checked="" type="checkbox"/> Develop additional water sites | <input type="checkbox"/> <input checked="" type="checkbox"/> Change salt location |

No evidence that deferment or rest is needed.

Install rotation system will reduce late season grazing in riparian area on south pasture

- Control juniper in North Pasture but do not need to reseed because less than 25% canopy of trees.*
- Sage-grouse is not an endangered species.*