

## 2018 Western National Rangeland Assessment CDE Part 5 - Grazing Management Scenario

You worked for the Bureau of Land Management (BLM) in the Salt Lake Field Office and it's time to visit the Valley's Edge allotment in the northeast corner of Utah near Bear Lake. You need to determine if the current amount of forage meets the needs of grazing animals using the allotment. The allotment has 3 pastures totaling 8,350 acres. You clipped several plots in each pasture and have calculated an average forage production in grams/m<sup>2</sup>.

The rancher who uses the allotment has a 690 head herd of cow/calf pairs. The herd is a mixture of Hereford, Angus, and Red Angus cows weighing an average of 1,150 lbs. The rancher brings the cow-calf pairs into the Sage Creek pasture on May 16. The herd stays in this pasture for 1 month and then moves to Hilltop pasture for 1 month. Finally, cows and calves stay in the Valley Bottom pasture for 3.5 months. The herd rotates pastures in a clockwise pattern every year. The cows and calves are then taken off the allotment; the cows are sent to ranch headquarters and the calves are sent to a feedlot.

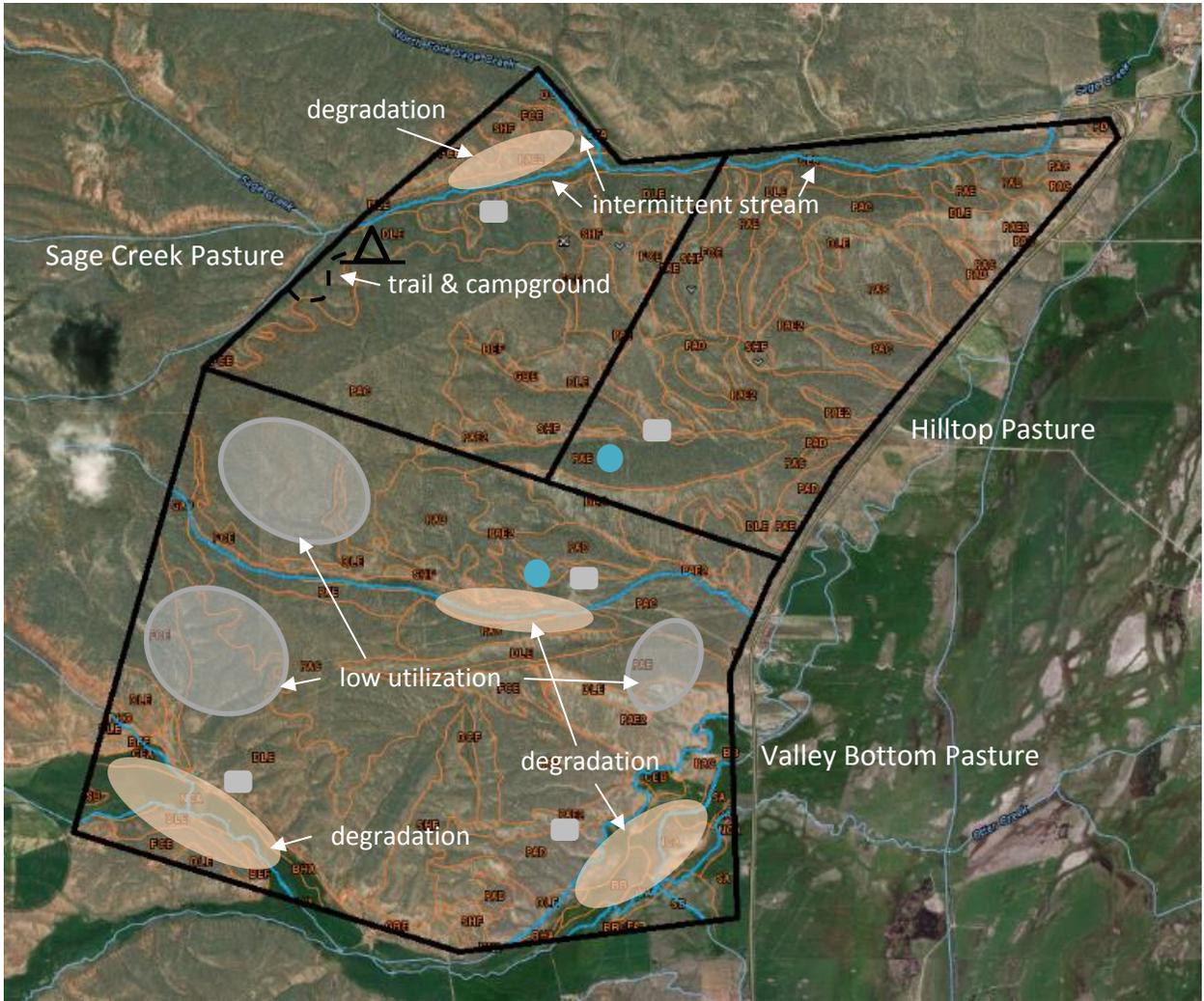
The Sage Creek and Hilltop pastures have an intermittent stream that flows during the spring through June. It then dries up for the summer. Hilltop pasture also has a water stock tank. Valley Bottom pasture has several perennial streams that run on opposite ends of the pasture. Valley Bottom pasture has several patches of forage with low utilization and areas along the perennial streams that show signs of degradation. You also notice a makeshift campground with lots of litter and a highly degraded trail along the western side of Sage Creek pasture.

There is also a resident herd of elk that utilizes the allotment for 6 months of the year. The herd consists of 42 members with an average 0.6 AUE.

Pasture name	Average Sample g/0.1 m <sup>2</sup>	Acres	Allowable Utilization
Sage Creek	85	1,679	45%
Hilltop	76	2,037	45%
Valley Bottom	91	4,634	50%

\*HINTS: First, convert biomass in g/m<sup>2</sup> to kg/hectare. Next, convert kg/ha to lbs/acre.

- 1 hectare = 10,000 m<sup>2</sup>
- 1 kg = 1,000 grams
- 1 kg/hectare = 0.89218 lbs/acre



Key

- - salt block
- - water tank

~ - stream (perennial unless otherwise indicated)

**Part 5 - Stocking Rate and Management Recommendations** (Completed at beginning or end of event) (90 points)

Students will complete the problem individually but at the same time as a group.

Supply of usable forage = 3,075,641.0 pounds **AND** 4,100.9 AUMs 30 pts

Forage demand = 3,386,587.5 pounds **AND** 4,515.5 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:

**AVAILABLE FORAGE**

Pasture Name	g/m <sup>2</sup>		conversion		kg/ha		conversion		lbs/ac		acres		lbs
Sage Creek	85	x	10	=	850	x	0.89218	=	758.35	x	1,679	=	1,273,269.65
Hilltop	76	x	10	=	760	x	0.89218	=	678.06	x	2,037	=	1,381,208.22
Valley Bottom	91	x	10	=	910	x	0.89218	=	811.88	x	4,634	=	3,762,251.92

\*Hint: (1/1) x (10,000/1) x (1/1,000) = 10 (see conversion factors in problem)

Pasture Name	total forage		utilization		available	
Sage Creek	1,273,269.65	x	0.45	=	572,971.34	lbs
Hilltop	1,381,208.22	x	0.45	=	621,543.70	lbs
Valley Bottom	3,762,251.92	x	0.5	=	1,881,125.96	lbs
					3,075,641.00	lbs
					4,100.85	AUMs

**FORAGE DEMAND**

690	Cow/calf pairs	x	1.15	AUE	x	5.5	months	=	4,364.25	AUMs
42	Elk	x	0.6	AUE	x	6	months	=	151.20	AUMs
									4,515.45	AUMs
									3,386,587.50	lbs

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

- Defer from spring grazing
- Rest from grazing for a growing season
- Install a rotation grazing system
- Add or revise fencing
- Develop additional water sites

Yes | No

- Control brush, trees and/or noxious weeds
- Seed or interseed with adapted species
- Reduce human recreation activities on site
- Manage for endangered species
- Change salt location