

Practice Stocking Rate Problems

1. Seasonal Suitability is a common grazing systems used by sheep ranchers in Idaho and other mountainous states. Let's suppose I wanted to create a sheep ranch by buying enough land & grazing permits for **2,000 sheep** (2 bands). In my "dream ranch", I would buy the following 3 types of land so I could do seasonal suitability grazing:

<u>Season of Use</u>	<u>Vegetation Type</u>	<u>Forage Production</u>	<u>Proportion of forage that can be grazed without degradation</u>
Winter Range	Salt-Desert Shrubland	400 kg/ha	35%
Spring & Fall Range	Sagebrush Grassland	750 kg/ha	40%
Summer Range	Mountain Meadows	2200 kg/ha	40%

I would graze the winter range from December through February (3 months) then I would move to my sagebrush grasslands and have lambs in March through May (3 month). I would then take my ewes with lambs up to the mountain meadows so the lambs could grow until the end of September (4 months). The first of October, I would wean lambs and truck them to market. I would keep the ewes on the mountain meadows for 1 more month. I would finish the year by trailing the sheep off the mountain and spending the month of November on my sagebrush range before going back to the winter range.

My ewes would weigh about 85 kg. Assume lambs do not eat a noticeable amount of forage until they go to the summer range. Also assume that lambs weigh about 5 kg when I send them to summer range and I sell lambs off the mountain weighing 45 kg, on average. My flock weans 1.3 lambs per ewe.

How much forage will each ewes/lamb unit require in each grazing period?

Forage required per average ewe in winter (Dec. through Feb.)? _____ kg

Forage required per average ewe in spring (March through May)? _____ kg

Forage required per average ewe/lamb unit in Summer (June through Sept.)? _____ kg

Forage required per average ewe in fall (October & Nov.)? _____ kg

How many hectare of range would I need to buy to satisfy the needs of my whole flock in each season?

Hectares required of Winter range (Dec. through Feb.)? _____

Hectares required of Spring range (March through May)? _____

Hectares required of Summer range (June through Sept.)? _____

Hectares required of Summer range for dry ewes (October)? _____

Hectares required of Fall range for dry ewes (November)? _____

2. A 2,000-acre pasture has a recommended stocking rate of 4 acres/AUM. It currently has 40 pronghorn antelope on it (.12 AUE), 170 cows (1 AUE) that graze for 3 months per year, and 12 horses (1.4 AUE) that graze about 6 months per year. How many AUMs of forage are currently being grazing on the land? Is the current stocking rate greater than or less than the recommended rate?

3. This situation involves a summer range in the mountains of northeastern Oregon grazed by yearling steers. How many steers should be stocked on a pasture with the following characteristics? (Show your work)

- Average annual precipitation = 18 inches
- Key forage = Idaho fescue
- Average annual production of key forage species 900 pounds per acre
- Recommended level of utilization = 35%
- Total area of pasture = 3,000 acres
- Physical characteristics:
- Rugged terrain:
 - 40% of area = 0-10% slope
 - 20% of area = 11-30% slope
 - 30% of area = 31-60% slope
 - 10% of area = > 60% slope
 - No part of pasture is greater than 1 mile from water
- Season of use = 120 days (01 June to 30 September)
- Type of livestock = yearling steers
- Weight of animals = 650 lbs initially gaining 2 pounds per day