# Rangeland Principles
Simple Practice Problems -- Example 1

- A small land owner, near Burley, has a 12 acre pasture on which she grazed 3 horses. The pasture produces about 1,800 pounds/acre of biomass of which about 70% can be harvested as forage (i.e., a 70% proper use factor).

- The horses average 900 pounds each and eat about 3% of their body weight each day.

- The horses have access to the pasture year-round but are provided hay from November through March. Therefore, the grazing season on the pasture is April through October (7 months or 210 days)
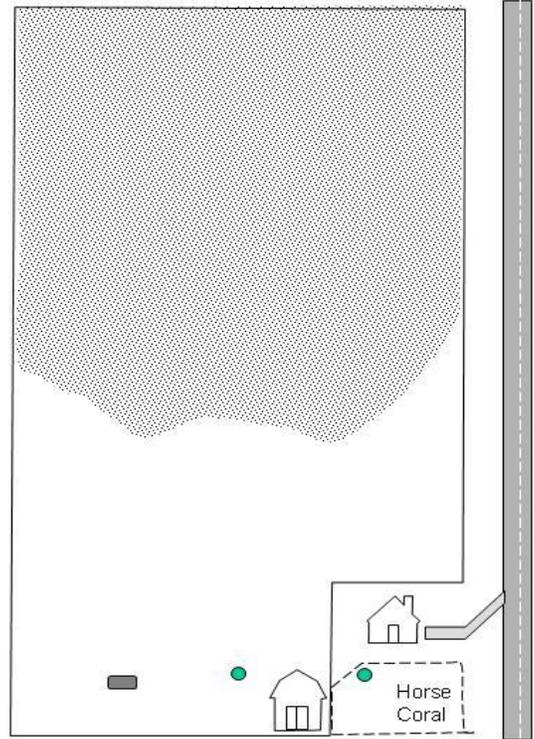
Calculate forage supply from pastures and forage demand by horses to determine if pastures are overstocked or understocked.

FORAGE SUPPLY:

_____lbs/acre x _____ acres = _____ total lbs of forage in pasture

_____ Total lbs x _____ proper use factor = _____ Total lbs of **usable forage** supply.

_____ lbs **usable forage** ÷ 750 lbs = _____ total AUM's available in pasture.

Remember: 1 AUM = 750 lbs

FORAGE DEMAND:

900 lbs/horse x 3% per day = _____ lbs/day x 210 days = _____ lbs/horse per season.

_____ lbs of forage/horse x 3 horses = _____ total lbs of forage demand.

_____ lbs of forage demand ÷ 750 lbs = _____ total AUM's of forage demand for horses.

SUMMARY of STOCKING LEVEL:

Supply of usable forage = _____ lbs OR _____ AUM's

Forage demand = _____ lbs OR _____ AUM's

Current Stocking Rate = 12 acres/_____AUMs = _____ acres/AUMs or _____AUMs/acre

← Forage Demand you Calculated

Would you recommend to increase or decrease stocking?

Rangeland Principles
Simple Practice Problems -- Example 2

This map depicts a ranch near Mountain Home, Idaho that includes three pastures of deeded land grazed in the spring and fall. This ranch also has a grazing permit with the U.S. Forest Service that is grazed in the summer. The ranch is generally managed with a herd of 140 cattle (1.1 AUE or 1,100 pounds) that are held in a Winter Pasture and fed hay through the winter. Both the Home Pasture and the West Pasture have a recommended stocking rate of 1.5 acres/AUM. The North East Pasture produces the same amount of biomass, but is grazed at a lower rate of 2 acres/AUM to preserve riparian habitat.
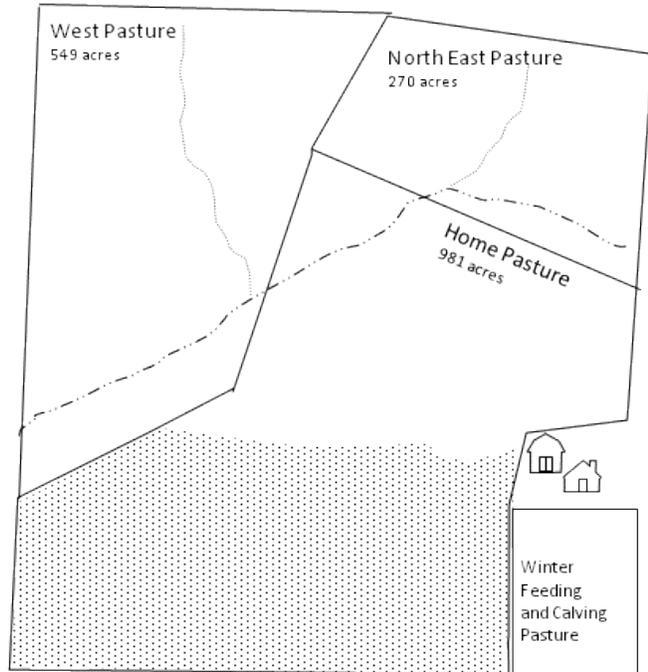
The pastures that are used in spring or fall vary from year to year and depends on how much forage remains after the spring grazing. Therefore, the appropriate stocking rate is set on total grazing season of about 3 months in the spring and 2 months in the fall.

West Pasture
549 acres

North East Pasture
270 acres

Home Pasture
981 acres

Winter Feeding and Calving Pasture

FORAGE SUPPLY:

West Pasture: _____ acres ÷ _____ acre/AUMs = _____ AUMs

Home Pasture: _____ acres ÷ _____ acre/AUMs = _____ AUMs

North East Pasture: _____ acres ÷ _____ acre/AUMs = _____ AUMs

Total AUM's-=_____ AUMs of forage total supply

AUMs of forage supply x 750 lbs/AUM = _____ lbs of total forage supply

FORAGE DEMAND:

140 cattle x 1.1 AUE = _____ AUs x _____ months = _____ AUM's

_____ AUMs of forage demand x 750 lbs/AUM = _____ lbs of total forage demand

STOCKING LEVEL:

Supply of usable forage = _____ lbs OR _____ AUM's

Forage demand = _____ lbs OR _____ AUM's

Current Stocking Rate = _____ acres/_____ AUMs = _____ acres/AUMs or _____ AUMs/acre

Acres for whole ranch ——↗   ↖ *Forage Demand you calculated*

Would you recommend to increase or decrease stocking?