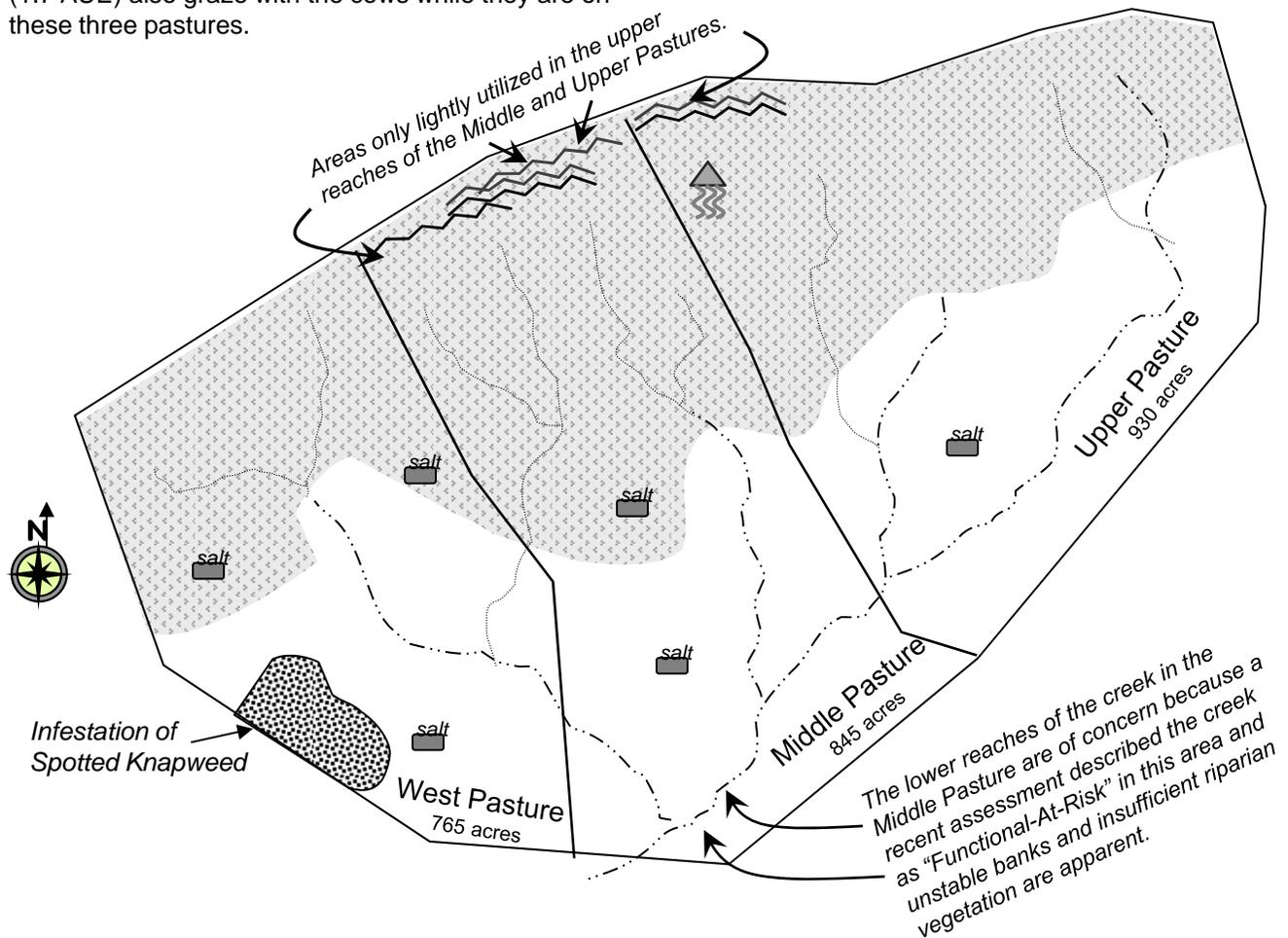
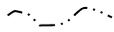


Western National Rangeland Assessment Event Management Scenario- Fall 2010

The map below depicts the Laxalt Ranch in northern Nevada. This is a small ranch that is grazed by a combination of cattle and sheep with pronghorn also found throughout the ranch.

- A herd of 140 Angus-cross cattle weighing about 1,200 pounds (1.2 AUE) are grazed from May 15 through November 15. The cattle enter the West Pasture in the spring, graze the Middle Pasture during the hot summer months, and graze the Upper Pasture in fall. In winter, cattle and calves are moved to a Winter Pasture (not depicted here) where calves are weaned and cows fed hay through winter. Calves are born in the spring in the Winter Pasture and then cows and calves are moved to the West Pasture in May.
- Three Angus Bulls weighing on average 1,700 pounds (1.7 AUE) also graze with the cows while they are on these three pastures.
- A small flock of Columbia-cross sheep also graze on the ranch (26 sheep, about 200 lbs each, 0.2 AUE) to provide lamb for the Laxalt's and their friends to eat. The ewes spend the winter with the cows and then graze in the West pasture with their lambs from May 15th through July 1st. In July, the sheep are moved to a mountain pasture and are grazed with a friend's flock for the summer. The flock returns to the ranch in mid-November when the cattle are moved to the Winter Pasture.
- A herd of about 25 pronghorn antelope (AUE = 0.2) graze the West, Middle, and Upper Pastures throughout the year season (January through December). The Laxalts want to include the pronghorn when calculating stocking rates to make sure there is enough forage for them.



-  Perennial Stream
-  Ephemeral Stream
-  Undeveloped Spring

Claypan Site - 45% of total area -- Mostly native grasses such as Bluebunch Wheatgrass and Thurber's Needlegrass. Scattered plants of Low and Alkali Sagebrush are common throughout the site. Recommended stocking rate for this site is 3.0 acres per AUM.

Loamy Lowland Site - 55% of total area -- Most of this site on the ranch was planted to crested wheatgrass several decades ago. Crested Wheatgrass still dominates the site but Great Basin Wildrye and Sandberg Bluegrass are also common. Shrubs such as bitterbrush and big sagebrush also occur throughout the site. Recommended stocking rate for this site is 1.75 acres per AUM.

Stocking Rate and Management Recommendations (90 points)

Supply of usable forage = 884,475 pounds AND 1,179.3 AUMs (20 pts)

Forage demand = 363,000 pounds AND 484 AUMs (20 pts)

*** just need pounds or AUMS – this problem is easier to do with AUM's*

Determine if the stocking rate is appropriate for the site. (Check appropriate box; 10 pts)

Decrease Stocking Rate Increase Stocking Rate Keep Rate the Same

*** Supply is greater than demand so stocking rate can be increased*

Show Calculations:

Supply Total acreage of ranch is $765+845+930= 2,540$ acres

Claypan Site = 2540 acres \times 45% = 1143 acres + 3.0 ac/AUM = 381 AUM

Loamy Lowland Site = 2540 acres \times 55% = 1397 acres + 1.75 ac/AUM = 798.3 AUM

= Total AUMs = $381 + 798.3 = 1,179.3$ AUM \times 750 lbs/AUM = $884,475$ pounds

Demand:

• Cows = 140 cows with calves \times 1.2 AUE = 168 AU \times 6 months = $1,008$ AUM

• Bulls = 3 bulls \times 1.7 AUE = 5.1 AU \times 6 months = 30.6 AUM

• Sheep = 26 ewes with lambs \times 0.2 AUE = 5.2 AU \times 1.5 months = 7.8 AUM

• Pronghorn = 25 pronghorn \times 0.2 AUE = 5 AU \times 12 months = 60 AUM

= Total AUMs $1,008+30.6+7.8+60 = 1106.4$

-OR-

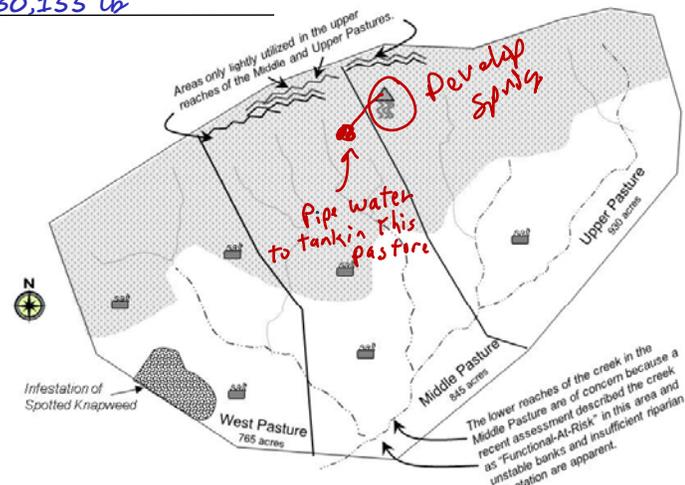
▪ Cows @ $1,200$ lbs each \times daily intake of 2.5% of body weight/day = 30 lbs/day \times (6 months \times 30 days/month or 180 days) = $5,400$ lbs/cow/grazing season \times 140 cows = $756,000$ pounds

▪ Bulls @ $1,700$ lbs each \times daily intake of 2.5% of body weight/day = 42.5 lbs/day \times (6 months \times 30 days/month or 180 days) = $7,650$ lbs/bull/grazing season \times 3 bulls = $22,950$ pounds

▪ Sheep @ 2000 lbs each \times daily intake of 2.5% of body weight/day = 5 lbs/day \times (1.5 months \times 30 days/month or 45 days) = 225 lbs/sheep/grazing season \times 26 sheep = $5,850$ pounds

▪ Pronghorn @ 200 lbs each \times daily intake of 2.5% of body weight/day = 5 lbs/day \times 365 days/yr = 1825 lbs/pronghorn/year \times 25 pronghorn = $45,625$ pounds

= $756,000+22,950+5,850+45,625 = 830,155$ lb



Choose management activities that apply to this site (Select all that apply; 4 pts each and 40 pts total)

Defer from spring grazing

Rest from grazing for a growing season

Install a rotation grazing system

Add or revise fencing

Develop additional water sites

Control brush, trees, or weeds

Seed or interseed with adapted species

Reduce human recreation activities on the site

Manage for endangered species

Change salt location