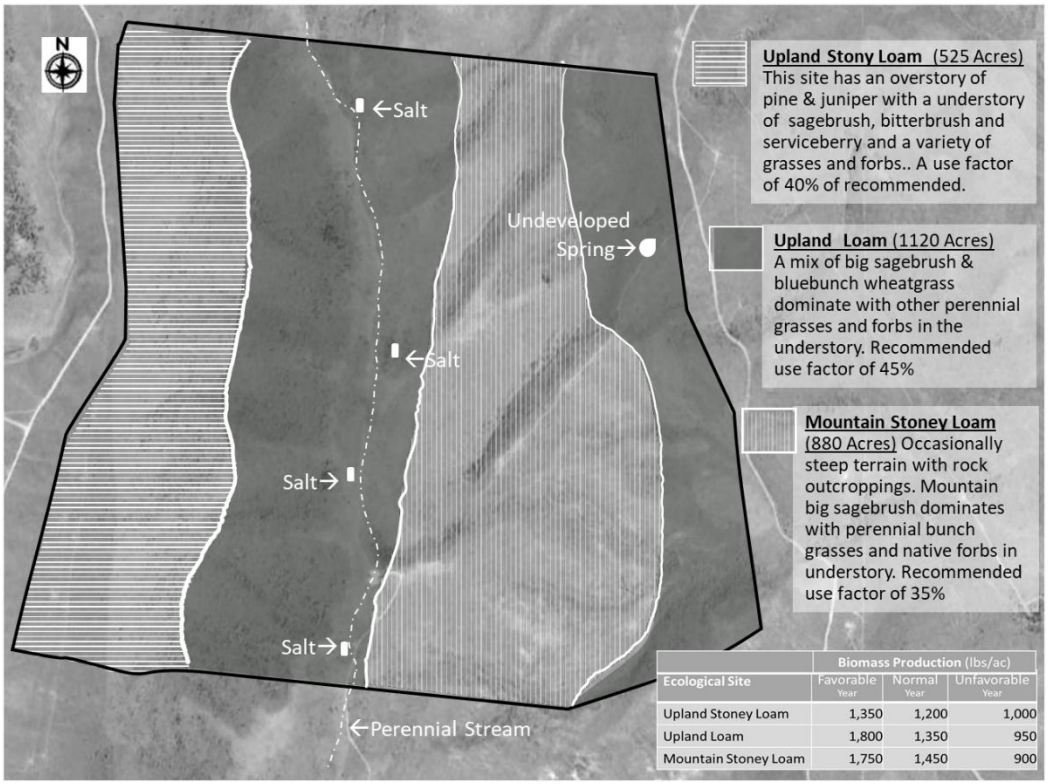
CHAPTER NAME: _____ STUDENT ID #: _____

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



Ecological Site	Biomass Production (lbs/ac) Favorable Year	Normal Year	Unfavorable Year
Upland Stoney Loam	1,350	1,200	1,000
Upland Loam	1,800	1,350	950
Mountain Stoney Loam	1,750	1,450	900

The Bitter Creek Spring-Fall allotment in Utah is a 2,525-acre BLM allotment grazed by a band of sheep in spring as they move to a higher elevation summer allotment and again in fall as they move back down to winter range. The range includes ecological sites of native shrubs and grasses with occasional areas of junipers and pines. The stocking rate for this allotment is set based on the amount of forage expected to be produced in an Unfavorable Year.

In spring, a band of 1,100 sheep with their lambs travel across the west side of the allotment grazing for 50 days. In the fall after grazing on high elevation Forest Service land, the lambs are weaned and trucked off the mountain. Several bands of dry ewes are combined, and 1,500 ewes return to this Bitter Creek allotment and graze along the east side of the allotment for 45 days. These sheep weigh 180 lbs on average and eat about 6.3 pounds (3.5% of their body weight) of forage each day. This allotment is also part of a Herd Management Area where BLM expects 70 horses (weighing about 800 pounds) graze for about 45 days using 126 AUMs of forage.

Space for Calculations:

Supply of usable forage = _____ pounds **AND** _____ AUMs *30 pts*

Forage demand = _____ pounds **AND** _____ AUMs *30 pts*

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

❒ Decrease Stocking Rate ☒ Increase Stocking Rate ❒ Keep Rate the Same

Answer management questions on the back of this page.

CHAPTER NAME: _____ STUDENT ID #: _____

Major ecological concerns on this allotment include:

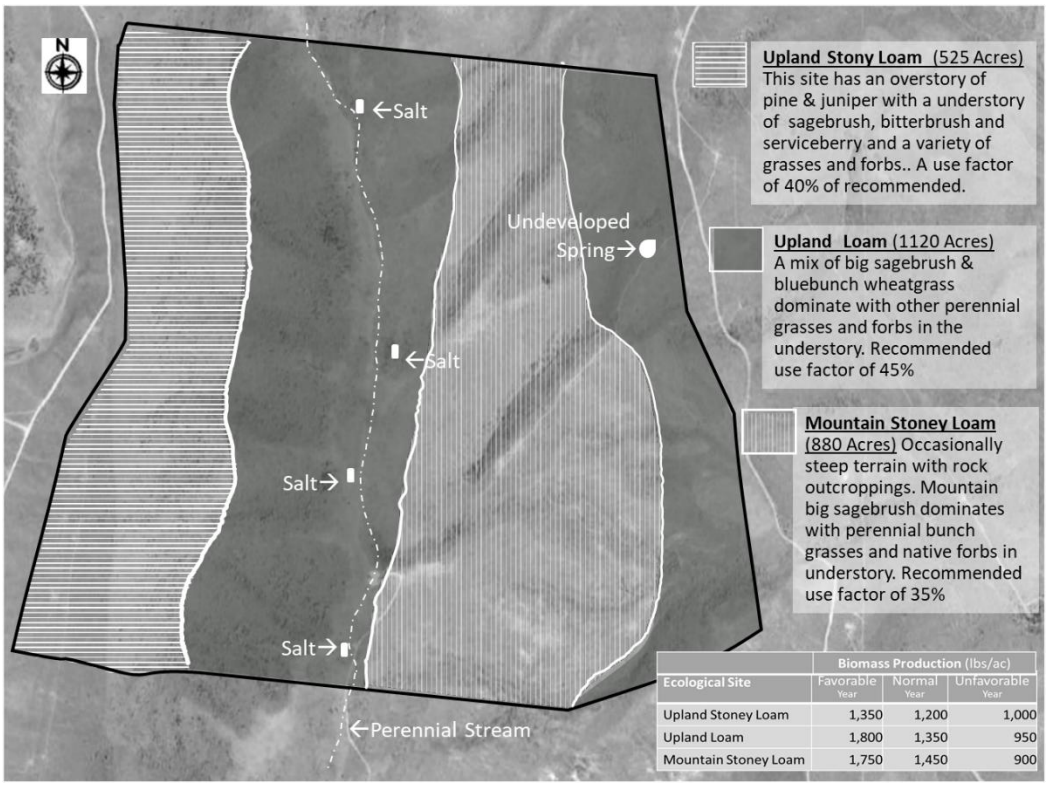
- The frequency and density of native forbs on the west side of the allotment (which is grazed every spring) is showing a downward trend over the last two decades.
- On the east side of the allotment (which is grazed in the fall) is maintaining forbs and grasses, but shrub cover is being reduced which is a concern for big game habitat.
- The wild horses can graze the allotment at any time during the summer and this is resulting in overuse of vegetation and unstable stream banks along Bitter Creek. There is need to draw horses out of the riparian area and attract then to the uplands.

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	
❑	❑	Defer from spring grazing	❑	❑	Control brush, trees and/or noxious weeds
❑	❑	Rest from grazing for a growing season	❑	❑	Seed or interseed with adapted species
❑	❑	Install a rotation grazing system	❑	❑	Reduce human recreation activities on site
❑	❑	Add or revise fencing	❑	❑	Manage for endangered species
❑	❑	Develop additional water sites	❑	❑	Change or add salt location

CHAPTER NAME: _____ STUDENT ID #: _____

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



Ecological Site	Biomass Production (lbs/ac) Favorable Year	Normal Year	Unfavorable Year
Upland Stoney Loam	1,350	1,200	1,000
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The Bitter Creek Spring-Fall allotment in Utah is a 2,525-acre BLM allotment grazed by a band of sheep in spring as they move to a higher elevation summer allotment and again in fall as they move back down to winter range. The range includes ecological sites of native shrubs and grasses with occasional areas of junipers and pines. The stocking rate for this allotment is set based on the amount of forage expected to be produced in an Unfavorable Year.

In spring, a band of 1,100 sheep with their lambs travel across the west side of the allotment grazing for 50 days. In the fall after grazing on high elevation Forest Service land, the lambs are weaned and trucked off the mountain. Several bands of dry ewes are combined, and 1,500 ewes return to this Bitter Creek allotment and graze along the east side of the allotment for 45 days. These sheep weigh 180 lbs on average and eat about 6.3 pounds (3.5% of their body weight) of forage each day. This allotment is also part of a Herd Management Area where BLM expects 70 horses (weighing about 800 pounds) graze for about 45 days using 126 AUMs of forage.

Space for Calculations:

Forage Supply:

1000 lbs/ac x 525 acres= 525,000 lbs x 40% use = 210,000 lbs /750 lbs= 280 AUMS
950 lbs/ac x 1120 acres= 1,064,000 lbs x 45% use = 478,800 lbs/750 lbs = 638.40 AUMS
900 lbs/ac x 880 acres = 792,000 lbs x 35% use = 277,200 lbs/750 lbs = 369.60 AUMS
Total Pounds = 966,000 lbs or 1,288 AUMs

Animal Demand:

Horses: 800 lbs x 3% = 24 lbs/day + 6 for 25% more intake than ruminant = 30 lbs x 45 days x 70 horses= 94,500 lbs or 126 AUMS
Sheep Spring: 180 lbs x 3.5% = 6.3 lbs/day x 50 days x 1,100 sheep = 346,500 lbs or 462 AUMs
Sheep Fall: 180lbs x 3.5% = 6.3 lbs/day x 45 days x 1,500 sheep = 425,250 lbs or 567 AUMs
Total Pounds = 850,500 lbs or 1,134 AUMs

Supply of usable forage = ___*966,000*___ pounds **AND** ___*1,288*___ AUMs *30 pts*

Forage demand = ___*866,250*___ pounds **AND** ___*1,155*___ AUMs *30 pts*

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

CHAPTER NAME: _____ STUDENT ID #: _____

❒ Decrease Stocking Rate ☒ Increase Stocking Rate ❒ Keep Rate the Same

Major ecological concerns on this allotment include:

- The frequency and density of native forbs on the west side of the allotment (which is grazed every spring) is showing a downward trend over the last two decades.
- On the east side of the allotment (which is grazed in the fall) is maintaining forbs and grasses, but shrub cover is being reduced which is a concern for big game habitat.
- The wild horses can graze the allotment at any time during the summer and this is resulting in overuse of vegetation and unstable stream banks along Bitter Creek. There is need to draw horses out of the riparian area and attract then to the uplands.

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	
☒	☒	either Defer from spring grazing	❑	☒	Control brush, trees and/or noxious weeds
❑	☒	Rest from grazing for a growing season	❑	☒	Seed or interseed with adapted species
☒	❑	Install a rotation grazing system	❑	☒	Reduce human recreation activities on site
❑	☒	Add or revise fencing	❑	☒	Manage for endangered species
☒	❑	Develop additional water sites	☒	❑	Change or add salt location