



NATIONAL
FFA ORGANIZATION

Idaho State Rangeland Assessment Handbook

2017-2021

Purpose

To create interest and promote understanding in Range Science by providing opportunities for recognition through the demonstration of skills and proficiencies.

Event Rules

1. Each team must be "certified" to represent its state by your state coordinator.
2. Each team member shall have been enrolled in a regular class in Agricultural Science and Technology in the school each is representing during the current school year.
3. Notes, bulletins, etc., must not be used in the contest. Clean clipboards, preferable clear plastic, are allowed.
4. No electronic devices except for non-programmable calculators may be used. Cell phones need to be turned off or turned in to the team coach.
5. Contest results submitted to contest officials by the tabulation committee are final unless obvious errors are noted before results are tabulated.
6. Tie scores will be broken by the total score of all four team members. The second tie breaker and individual tie breaker will be the plant ID score.
7. Four contestants comprise a team. The three highest scores determine the team score. A team of three members will be permitted to enter. If less than three members from a club or chapter are present, they may enter as individual contestants. One alternate per team is allowed to participate, but their score is not included in the official scoring.
8. Members of a team winning first place in any previous Idaho State Rangeland Assessment CDE will not be eligible to participate in any future events.
9. The top 5 FFA teams will be invited to compete in the Western National Rangeland Career Development Event.
10. Official dress is not required for the field event. Teams are encouraged to wear FFA team jackets if weather permits, but weather and terrain appropriate clothing is encouraged. Official dress is required at the presentation of awards.

Event Rotation

The Idaho State Rangeland Assessment CDE will follow the format of the Western National Rangeland CDE (<http://wnrcde.wordpress.com>). However, because of time constraints, we will adhere to the following:

1. EACH year, we will complete Part 1 (Plant ID and Site Description), Part 2 (Rangeland Management), and Part 5 (Stocking Rate and Management Recommendations)
2. In EVEN years, we will do Part 3 (Habitat Evaluations For Domestic Grazers)
3. In ODD years, we will do Part 4 (Habitat Evaluation for Wildlife)

Scoring

Part 1. Plant Identification and Ecological Site Description (200 points)

- A. Plant Identification (15 plants) – 150 points
 - i. Common name – 5 points
 - ii. Growth form, life span, origin, and grazer/browser forage values each worth 1 point. Note: for toxic plants, they must be correctly labeled as toxic to receive full points. If toxicity is not noted, then one point is deducted. If a plant is not-toxic, but toxic category is selected, then one point is deducted.
- B. Ecological Site Description – 50 points
 - i. Precipitation Zone – 10 points
 - ii. Soil Depth & Rockiness – 10 points
 - iii. Soil Texture – 10 points
 - iv. Slope – 10 points
 - v. Aspects – 10 points

Part 2. Rangeland Management (100 points)

- A. Similarity to Desired State – 60 points
 - i. Average Observed Composition – 35 points
 - a. If within $\pm 5\%$ of actual – 7 points each (5 categories)
 - b. If within $\pm 10\%$ of actual – 3 points each (5 categories)
 - ii. % Counted Toward Similarity – 15 points
 - a. Growth form with correct composition category counted toward similarity – 3 points each
 - iii. Noxious Weeds – 5 points
 - iv. Poisonous Plants – 5 points
- B. Habitat Improvement – 40 points

Part 3. Habitat Evaluation for Domestic Grazers (105 points)

- A. Total Biomass Estimate – 40 points
 - i. Herbaceous – 20 points
 - ii. Current Season Browse – 20 points
- B. Forage Diversity – 5 points
- C. Forage Utilization Estimate – 35 points
 - i. Correct Calculation Process – 20 points
 - ii. Appropriate Estimate – 15 points
 - a. If within $\pm 5\%$ of actual – 15 points
 - b. If within $\pm 10\%$ of actual – 10 points
- D. Distribution Factor – 10 points
 - i. Grazing Accessibility – 5 points
 - ii. Water Accessibility – 5 points
- E. Habitat Ranking Based on Species of Grazing Livestock – 15 points
 - i. One correct – 5 points
 - ii. All three correct – 15 points

Part 4. Habitat Evaluation for Wildlife (155 points)

- A. Forage Factors for Browsing Wildlife – 65 points
 - i. Browse Abundance of Desirable Species – 10 points
 - ii. Browse Species Diversity – 10 points
 - iii. Browse Age Diversity – 40 points
 - a. If within $\pm 5\%$ of actual – 10 points each (4 categories)
 - iv. Description of Browse Age Diversity – 5 points
- B. Habitat for Sage Grouse – 75 points
 - i. Cover Estimate – 30 points
 - a. Correct process for Sagebrush Intercept – 20 points
 - b. Calculated Sagebrush Cover Value
 - 1. If within $\pm 5\%$ of actual – 10 points
 - ii. Height Estimate – 20 points
 - a. Correct process for Sagebrush Height – 10 points
 - b. Correct process for Grass Height – 10 points
 - iii. Forage and Cover Habitat Elements – 25 points
 - a. Sagebrush Height – 9 points
 - 1. Nesting – 3 points
 - 2. Brood Rearing – 3 points
 - 3. Winter – 3 points

- b. Sagebrush Cover – 9 points
 - 1. Nesting – 3 points
 - 2. Brood Rearing – 3 points
 - 3. Winter – 3 points
- c. Herbaceous Cover & Food – 7 points
 - 1. Nesting – 3 points
 - 2. Brood Rearing – 4 points
- C. Habitat Ranking Based on Habitat Requirements for Sage-Grouse – 15 points
 - i. One correct – 5 points
 - ii. All three correct – 15 points

Part 5. Stocking Rate and Management Recommendations – 90 points

- A. Supply of Usable Forage – 30 points
- B. Forage Demand – 30 points
- C. Determination of Appropriate Stocking Rate – 10 points
- D. Management Activities that Apply to Site – 20 points

Summary of Scoring

Summary of Scoring – EVEN YEARS

| | |
|---|------------|
| Part 1 – Plant Identification and Ecological Site Description | 200 points |
| Part 2 – Rangeland Management | 100 points |
| Part 3 – Habitat Evaluation for Domestic Grazers | 105 points |
| Part 5 – Stocking Rate and Management Recommendations | 90 points |

| | |
|-------------------------|------------|
| Total Individual points | 495 points |
|-------------------------|------------|

| | |
|---|-------------|
| Total points toward team score (Total Possible Points) | 1485 points |
|---|-------------|

Summary of Scoring – ODD YEARS

| | |
|---|------------|
| Part 1 – Plant Identification and Ecological Site Description | 200 points |
| Part 2 – Rangeland Management | 100 points |
| Part 4 – Habitat Evaluation for Wildlife | 155 points |
| Part 5 – Stocking Rate and Management Recommendations | 90 points |

| | |
|-------------------------|------------|
| Total Individual points | 545 points |
|-------------------------|------------|

| | |
|---|-------------|
| Total points toward team score (Total Possible Points) | 1635 points |
|---|-------------|

Awards

Awards are presented to teams and individuals based upon their rankings. Teams from 1st through 3rd place and individuals from 1st through 5th place will receive plaques, donated by the Idaho Rangeland Resources Commission.

References

A study manual for the Idaho State Rangeland Assessment CDE and a companion high school curriculum have been developed by Dr. Karen Launchbaugh, Professor and Rangeland Center Director, and Lovina Roselle, Outreach Coordinator, at the University of Idaho. Materials posted on event website at www.webpages.uidaho.edu/what-is-range/FFA.Range.htm.

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CHAPTER: _____

STUDENT ID: _____

Part 1 – Plant Identification and Ecological Site Description (200 points)

1A. Plant Identification (150 points)

| Plant Name (write <i>name</i> from list below) | Growth Form | | | Life Span | | Origin | | Forage Value | | | | Toxic |
|--|-------------|---|---|-----------|---|--------|---|--------------|---|--------------|---|-------|
| | G | F | W | A | P | N | I | For Grazers | | For Browsers | | |
| | | | | | | | | D | U | D | U | |
| 1. | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | |
| 4. | | | | | | | | | | | | |
| 5. | | | | | | | | | | | | |
| 6. | | | | | | | | | | | | |
| 7. | | | | | | | | | | | | |
| 8. | | | | | | | | | | | | |
| 9. | | | | | | | | | | | | |
| 10. | | | | | | | | | | | | |
| 11. | | | | | | | | | | | | |
| 12. | | | | | | | | | | | | |
| 13. | | | | | | | | | | | | |
| 14. | | | | | | | | | | | | |
| 15. | | | | | | | | | | | | |

Plant Name: Write in common name (not plant number)

Origin: N=native / I=introduced

Growth Form: G=grass or grass-like / F=forb / W=woody

Forage Value: D=desirable / U=undesirable

Life Span: A=annual / P=perennial

- | | | | | |
|----------------------|---------------------------|-----------------------|-------------------------|---------------------|
| Antelope Bitterbrush | Curl-leaf Mountain | Juniper (Utah, Rocky | Purple Threeawn | Scarlet Globemallow |
| Arrowleaf Balsamroot | Mahogany | Mountain, or Western) | Quaking Aspen | Shadscale |
| Baltic Rush | Curlycup Gumweed | Kentucky Bluegrass | Rabbitbrush (Green or | Smooth Brome |
| Basin Wildrye | Elk Sedge | Lupine | Rubber) | Spotted Knapweed |
| Big Sagebrush | Fourwing Saltbush | Medusahead Rye | Rhizomatous Wheatgrass | Squirreltail |
| Bluebunch Wheatgrass | Foxtail Barley | Mormon Tea | (Thickspike or Western) | Tall Larkspur |
| Canada Thistle | Greasewood | Mountain Brome | Rush Skeletonweed | Tapertip Hawksbeard |
| Cheatgrass (or Downy | Halogeton | Mule-ears | Russian Thistle (or | Western Yarrow |
| Brome) | Hoary Cress (or Whitetop) | Nebraska Sedge | Tumbleweed) | Wild Geranium |
| Chokecherry | Idaho Fescue | Needle-and-Thread | Salt Cedar | Winterfat |
| Common Snowberry | Indian Paintbrush | Penstemon (or | Saltgrass | |
| Coyote Willow | Indian Ricegrass | Beardtongue) | Sandberg Bluegrass | |
| Crested Wheatgrass | Intermediate Wheatgrass | Prairie Junegrass | Saskatoon Serviceberry | |

CHAPTER: _____

STUDENT ID: _____

1B. Site Description (50 points)

Precipitation Zone (Select one)

10 pts

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> Desert | <input type="checkbox"/> Mountain |
| <input type="checkbox"/> Semi-Desert | <input type="checkbox"/> High Mountain |
| <input type="checkbox"/> Upland | <input type="checkbox"/> Alpine |

Soil Depth & Rockiness (Select one)

10 pts

- | | |
|--|--|
| <input type="checkbox"/> Shallow Hardpan | <input type="checkbox"/> Deep Gravelly |
| <input type="checkbox"/> Shallow | <input type="checkbox"/> Deep Stony |
| <input type="checkbox"/> Deep | |

Soil Texture (Select one)

10 pts,
5 pts for
adjacent
texture

- | | |
|--|--|
| <input type="checkbox"/> Sand | <input type="checkbox"/> Silty Clay Loam |
| <input type="checkbox"/> Loamy Sand | <input type="checkbox"/> Clay Loam |
| <input type="checkbox"/> Sandy Loam | <input type="checkbox"/> Sandy Clay |
| <input type="checkbox"/> Silt Loam | <input type="checkbox"/> Silty Clay |
| <input type="checkbox"/> Loam | <input type="checkbox"/> Clay |
| <input type="checkbox"/> Sandy Clay Loam | |

Slope – Clinometers will be provided on site (Select one) – NOTE: Measure the slope delineated between the flags.
Slope is unrelated to Part 3D.

10 pts

- | | |
|--|--|
| <input type="checkbox"/> 0-5% (nearly level) | <input type="checkbox"/> 16-20% (moderately steep) |
| <input type="checkbox"/> 6-10% (slight slope) | <input type="checkbox"/> 21-45% (steep) |
| <input type="checkbox"/> 11-15% (moderate slope) | <input type="checkbox"/> >45% (very steep) |

Aspect – Compasses will be provided on site (Select one)

10 pts

- | | |
|---|---|
| <input type="checkbox"/> North (338°–22°) | <input type="checkbox"/> North East (23°–67°) |
| <input type="checkbox"/> North West (293°–337°) | <input type="checkbox"/> East (68°–112°) |
| <input type="checkbox"/> West (248°–292°) | <input type="checkbox"/> South East (113°–157°) |
| <input type="checkbox"/> South West (203°–247°) | <input type="checkbox"/> South (158°–202°) |

Part 2 – Rangeland Management (100 points)

2A. Similarity to Desired State (60 points)

Calculate the similarity between observed and desired composition based the expected annual biomass production on a dry weight basis. “Observed Composition” will be estimated in the field (in Plots 1, 2, and 3) and “Desired Composition” will be provided. The evaluation area will consist of 3 marked, square plots (50 by 50 cm) within a larger marked area.

| Plant Class | Plot 1 Proportion of Biomass (%) | Plot 2 Proportion of Biomass (%) | Plot 3 Proportion of Biomass (%) | Average Observed Composition (%) | Scoring | Desired Composition (Provided at Site) (%) | % Counted Toward Similarity |
|--------------------|---|---|---|---|-------------|---|-----------------------------------|
| Perennial Grass | | | | | ±5% ±10% | | |
| Annual Grass | | | | | ±5% ±10% | | |
| Perennial Forbs | | | | | ±5% ±10% | | |
| Annual Forbs | | | | | ±5% ±10% | | |
| Shrubs | | | | | ±5% ±10% | | |
| | 100% | 100% | 100% | | | Calculated Similarity | |

Average Observed Composition % (35 pts)

7 pts for each growth form if answer is within ±5% of actual; 3 pts if answer is within ±10% of actual = _____pts

% Counted Toward Similarity (15 pts)

3 pts for each growth form with correct composition category counted toward similarity = _____pts

Noxious Weeds – Examine the marked area closely and determine if any noxious weeds from event plant list are present. If one (or more) is present, include common name for full points. (Check one)

5 pts

- Yes. Name one: _____
- No

Poisonous Plants – Examine the marked area closely and determine if any poisonous plants from event plant list are present. If one (or more) is present, include common name for full points. (Check one)

5 pts

- Yes. Name one: _____
- No

2B. Habitat Improvement (40 pts)

A scenario will be given to improve habitat and may include fencing installment, forage planting, water improvement, etc. This will require a calculation for total cost of improvement based on inputs and requirements. You must show your work in order to receive full credit.

Show Calculations:

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Part 3 - Habitat Evaluation for Domestic Grazers (105 pts) *For grazing livestock including horses, cattle, or sheep*

3A. Total Biomass Estimate *(Based on dry weight in a designated 4.8 ft² plot; 40 pts) 20 pts for both herbaceous and shrubs.*

Herbaceous (select one):

- 0-400 pounds/acre
- 400-800 pounds/acre
- 800-1200 pounds/acre
- 1200-1600 pounds/acre
- >1600 pounds/acre

Current Season Shrubs (select one):

- 0-400 pounds/acre
- 400-800 pounds/acre
- 800-1200 pounds/acre
- 1200-1600 pounds/acre
- >1600 pounds/acre

3B. Forage Diversity

Mark diversity of forage producing plants based on plant growth form

(Growth forms = perennial grasses, annual grasses, perennial forbs, annual forbs, and woody plants).

- Represent at least 4 of the 5 growth forms
- Represent 3 of the 5 growth forms
- Represent 2 of the 5 growth forms
- Represent only 1 of the 5 growth forms

3C. Forage Utilization Estimate *(Based on observations recorded in a 20- to 30-pace transect; 35 pts)*

| Class Intervals | Interval Midpoint (M) | "Hits" Tally | Count (C) | Midpoint x Count (M x C) | Herbaceous Utilization Classes Based on Landscape Appearance |
|-----------------|-----------------------|--------------|----------------------|--------------------------|---|
| 0-5 % | 2.5 | | | | Desirable forage plants show no evidence of grazing or negligible use. |
| 6-20% | 13 | | | | Desirable forage plants have the appearance of very light grazing. The herbaceous forage plants may be topped or slightly used. Current seedstalks and young plants are little disturbed. |
| 21-40% | 30 | | | | Desirable forage plants may be topped , skimmed, or grazed in patches. The low value herbaceous plants are ungrazed and 60-80% of the number of current seedstalks remain intact. Most young plants are undamaged. |
| 41-60% | 50 | | | | Half of the available desirable forage plants appear to have been utilized and 15-25% of current seedstalks remain intact. No more than 10% of the undesirable herbaceous forage plants are utilized. |
| 61-80% | 70 | | | | More than half of the available desirable forage plants are almost completely utilized, with less than 10% of the current seedstalks remaining. More than 10% of the undesirable herbaceous forage plants have been utilized. |
| 81-94% | 88 | | | | The rangeland has a mown appearance. Desirable forage plants appear to be heavily utilized and there is no evidence of reproduction or current seedstalks. |
| 95-100% | 97.5 | | | | The rangeland appears to be completely utilized. More than 50% of the undesirable herbaceous plants appear to have been completely utilized. The remaining stubble is grazed to the soil surface. |
| | | Totals | <input type="text"/> | <input type="text"/> | |

Average Utilization

=

$\frac{\text{Total M x C}}{\text{Total C}}$

÷

$\frac{\text{Total M x C}}{\text{Total C}}$

=

Average Utilization

*Correct Calculation Process = 20 pts
Appropriate Estimate (within ±5% of actual = 15 pts; within ±10% = 10 pts) = _____*

3D. Distribution Factors: Landscape attributes that limit accessibility of the area to grazing animals.

Grazing Accessibility – Evaluate the overall, broader landscape for grazing accessibility using a map provided.

Note: Unrelated to slope measured in Part 1

5 pts

- 0-15% = no limitations
- 16-30% = moderately accessible
- 31-60% = greatly avoided
- greater than 60% = unusable

Water Accessibility – Check box that characterizes the distance from grazing site to water source.

(Map will be provided)

5 pts

- Distance from 0 to 1 mile
- Distance from 1 to 2 miles
- Distance from 2 to 3 miles
- Distance greater than 3 miles or not available in grazing unit

3E. Habitat Ranking Based on Species of Grazing Livestock

Based on forage and distribution factors above, rank the habitat value for the following types of livestock.

1 = Best, **2** = Second Best, or **3** = Third Best

Cattle _____

Sheep _____

Goats _____

15 pts for all correct; 5 pts for one correct = _____pts

Part 4 – Habitat Evaluation for Wildlife (155 pts)

4A. Forage Factors for Browsing Wildlife (65 points) *Evaluation for browsing wildlife including deer and pronghorn.*

Browse Abundance of Desirable Species – Within the marked perimeter of the site, examine the shrub species available for browsing. Estimate the proportion of total shrub cover that consists of species designated as **desirable** on the plant list. Check the box that best describes the proportion of total shrub cover that consists of **desirable** species.

10 pts

- > 50%
- 30 – 49%
- 10 – 29%
- < 10%

Browse Species Diversity – Check the box that best describes the diversity of **desirable** browse plants available throughout the marked area.

10 pts

- Browse species are represented by more than 3 desirable species
- There are 2 to 3 desirable browse species on the site
- Only 1 desirable browse species represented on the site
- No desirable browse species present

Browse Age Diversity – Determine the diversity of age classes for **desirable** browse species present in a belt transect delineated on the site. Record the number of shrub plants located in the belt based on age classes in the tally columns below. Calculate the proportion of shrubs by age class for **desirable** shrubs based on your observations. *(Complete table and make calculations; 40pts total)*

| Age Classes of Shrubs | Tally of Plants (field count) | Total Tally Count | Relative Age Class Distribution (%) | Scoring |
|---|----------------------------------|----------------------|--|---------|
| Young (All stems alive) | | | | ±5% |
| Mature (> 50% live stems < 50% dead stems) | | | | ±5% |
| Aged (< 50% live stems and > 50% dead stems) | | | | ±5% |
| Dead (No live stems; all stems appear dead) | | | | ±5% |
| Total | X | | 100% | X |

10 pts for each % relative age distribution within ±5% of actual = _____pts

Based on your data, check the box that best describes the browse age diversity.

- Majority of desirable shrubs are young with few mature plants
- The majority of desirable shrubs are mature with abundant young plants present
- The majority of desirable shrubs are mature and aged with few young plants present
- The majority of desirable shrubs are aged or dead with few young or mature plants present

4B. Habitat for Sage-Grouse (75 POINTS)

Cover Estimate – Sagebrush cover by line intercept. Examine the transect line placed on the site, record segments of sagebrush canopy that intercept the transect, and calculate percent cover. (30 pts total; yard sticks will be provided)

| Sagebrush Intercept Transect Length = _____ ft | | | |
|---|--------------------|-----------------|--------------------|
| Plant Intercept | Intercept (inches) | Plant Intercept | Intercept (inches) |
| 1 | | 10 | |
| 2 | | 11 | |
| 3 | | 12 | |
| 4 | | 13 | |
| 5 | | 14 | |
| 6 | | 15 | |
| 7 | | 16 | |
| 8 | | 17 | |
| 9 | | 18 | |
| Subtotal = | | Subtotal = | |
| Total Intercept = | | | |
| % Cover = | | | |

Correct process for Sagebrush Intercept = 20 pts
Calculated Sagebrush Cover Value ± 5% Actual = 10 pts

Height Estimate – Record height of 10 live sagebrush plants and 10 perennial grasses encountered along a point-line transect. (20 pts; Yard sticks will be provided)

| Plant | Sagebrush Height (inches) | Perennial Grass Height (inches) |
|----------------|---------------------------|---------------------------------|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| Total | | |
| Average | | |

Correct process for Sagebrush Height = 10 pts
Correct process for Grass Height = 10 pts

Forage and Cover Habitat Elements – Based on data above, check the appropriate boxes below to evaluate the site based on the relative plant cover and height. (Average snow depth and canopy cover of perennial grass, annual grass, forbs, and other shrubs will be provided on the site; Check appropriate box; 25 pts total)

| <u>Sagebrush Height</u> | <u>Favorable Condition</u> | Adequate | Marginal | Not Present | |
|-------------------------|----------------------------|--------------------------|--------------------------|--------------------------|-------|
| Nesting | 15-30 inches | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 pts |
| Brood Rearing | >15 inches | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 pts |
| Winter | 10-14 inches above snow | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 pts |

| <u>Sagebrush Cover</u> | <u>Favorable Condition</u> | Adequate | Marginal | Not Present | |
|------------------------|----------------------------|--------------------------|--------------------------|--------------------------|-------|
| Nesting | 15-25% cover | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 pts |
| Brood Rearing | 10-25% cover | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 pts |
| Winter | 10-30% cover | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 pts |

| <u>Herbaceous Cover & Food</u> | <u>Favorable Condition</u> | Adequate | Marginal | Not Present | |
|------------------------------------|---|--------------------------|--------------------------|--------------------------|-------|
| Nesting | At least 15% cover | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 pts |
| Brood Rearing | Mix of abundant forbs (>15% cover) & presence of taller grasses (>7 inches) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4 pts |
| Winter | Unimportant food source | N/A | N/A | N/A | |

4C. Habitat Ranking Based on Habitat Requirements for Sage-Grouse *(15 pts for all correct; 5 pts for one correct)*

Based on habitat factors above, rank the habitat value for the following types of habitat:

1 = Best, **2** = Second Best, or **3** = Third Best

Nesting _____ Brood Rearing _____ Winter _____

Assume that the habitat evaluation site is within 1 mile of adequate lek sites.

15 pts for all correct; 5 pts for one correct = _____pts

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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 = _____ 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 in order to receive full credit. (Check appropriate box) 10 pts

Decrease Stocking Rate

Increase Stocking Rate

Keep Rate the Same

Space for Calculations:

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