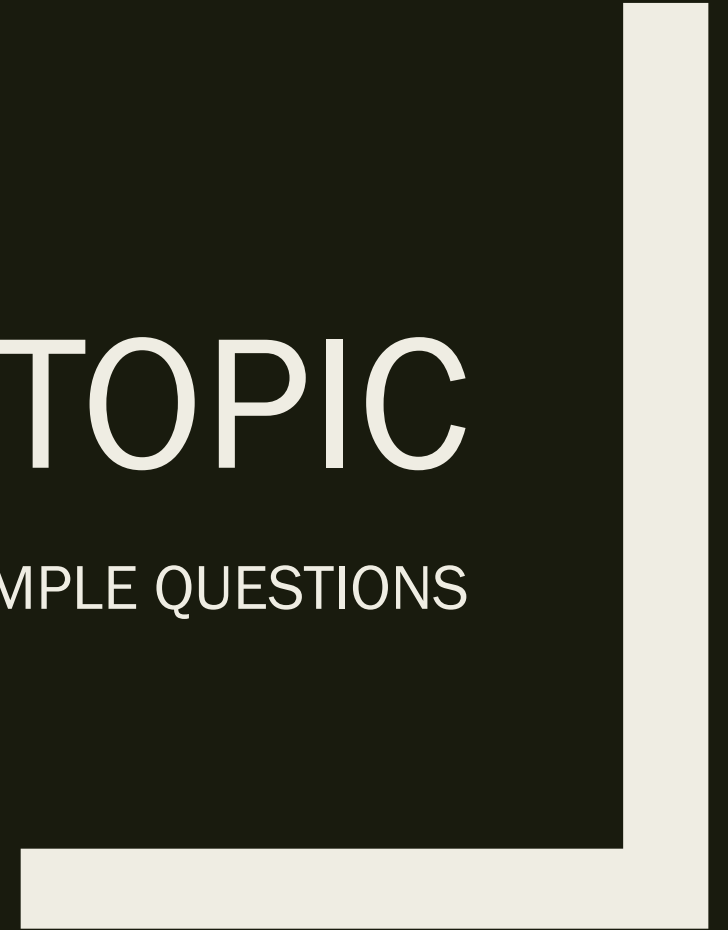


RANGE TOPIC

NEBRASKA ENVIROTHON:EXAMPLE QUESTIONS



LESSON 1: KINDS OF RANGELAND IN NEBRASKA

- FOR STATE ENVIROTHON: WHAT PRAIRIE TYPE IS FOUND IN THIS PART OF NEBRASKA?
- WHERE IS THE LARGEST INTACT AREA OF TALL GRASS PRAIRIE FOUND?

LESSON 2: IMPORTANCE OF RANGELAND

- What county is the top cow country in the United States?
- Scientific, educational, and religious benefits derived from rangelands are called what kind of ecosystem services?
 - *Provisioning*
 - *Regulating*
 - *Cultural*
 - *Supporting*
- Nutrient cycling, energy cycling, biodiversity and wildlife habitat are what kind of ecosystem service
 - *Provisioning*
 - *Regulating*
 - *Cultural*
 - *Supporting*

LESSON 3: HISTORY OF RANGELAND

- The law that opened the western US to settlement offered settlers up to how many acres of land?
- What Nebraska town was located at the end of the cattle drive route called the western trail (or Texas trail)?
- What percentage of US rangelands are owned by the federal government?
- What state has the most acres of federal land within its boundaries?

LESSON 4: CLASSIFICATION OF RANGE PLANTS

- Herbaceous plants with long, narrow leaves with parallel veins, and jointed stems that are hollow between the joints are what plant type?
- A plant that was part of the original vegetation of North America is _____?
- Plants that flower in late spring or early summer are referred to as _____season.

LESSON 4: CLASSIFICATION OF RANGE PLANTS

- Which of these plants are legumes:



LESSON 4: CLASSIFICATION OF RANGE PLANTS

- Which of these plants are legumes:



LESSON 4: CLASSIFICATION OF RANGE PLANTS

- Which of these plants are legumes:



LESSON 4: CLASSIFICATION OF RANGE PLANTS

- Which of these plants are legumes:



LESSON 5: PLANT ID

- What is the term for an appendage or ring of hairs on the inside of the leaf at the junction of the leaf and sheath?



Lesson 6: NOXIOUS AND INVASIVE PLANTS



- What is the name of this noxious plant?

LESSON 6: NOXIOUS AND INVASIVE PLANTS

- True/False: This thistle is a noxious weed in Nebraska.



LESSON 7: ENDANGERED AND THREATENED SPECIES

- Which of these plants is federally listed as endangered?
 - *See this slide and the next two slides.*



LESSON 7: ENDANGERED AND THREATENED SPECIES

- Which of these plants is federally listed as endangered?



LESSON 7: ENDANGERED AND THREATENED SPECIES

- Which of these plants is federally listed as endangered?



LESSON VII: ENDANGERED AND THREATENED SPECIES

- Which of these plants are federally listed as threatened in Nebraska?
 - *Colorado Butterfly Plant*
 - *Western Prairie Fringed Orchid*
 - *Ute Ladies' Tresses*





LESSON 8: POISONOUS PLANTS

- How many plants in Nebraska are listed as Primary Toxic (dangerous and lethal) in Nebraska?
 - 2
 - 5
 - 12
 - 17

LESSON 8: POISONOUS PLANTS

- What is this poisonous plant?
 - *Woolly Locoweed*
 - *Missouri Milkvetch*
 - *Crazyweed*
 - *Breadroot scurfpea*



Lesson 9: How Plants Grow and Respond to Grazing

- Defoliation is the removal of plant material.
Which of the following are types of defoliation?
- *Livestock grazing*
- *Wildfire*
- *Consumption by insects*
- *Hail*



Lesson 9: How Plants Grow and Respond to Grazing

- When moderate grazing is implemented, how much of the production is allocated for use?
 - 40%
 - 50%
 - 60%
 - 30%





Lesson 10: Ecological Sites

- Biotic factors that impact ecological sites include:
 - *Plant species, soils, climate, and fire*
 - *Plant species, vegetation states, and grazing*
 - *Soils, geology, hydrology, and landform*
 - *Landform, water table, soils, and parent material*



Lesson 10: Ecological Sites

- The name for the state that is the most stable, diverse state for a specific ecological site called:
 - *Steady State*
 - *Stable State*
 - *Reference State*
 - *None of the above*



Lesson 11: Ecological Sites of Nebraska

- The ecological site that is composed of sandy soils, occurs on steep uplands with slopes exceeding 20 and that have catsteps and blowouts is:
 - *Sands*
 - *Sandy*
 - *Choppy Sands*
 - *Loess Breaks*



Lesson 11: Ecological Sites of Nebraska

- The ecological site that is composed of deep, loamy soils, occurs on level to steep slopes and that has an abundance of lime in the surface layer is:
 - *Loamy*
 - *Shallow Limy*
 - *Limy Upland*
 - *Loess Breaks*

Lesson 12: Evaluating Health of Rangeland Ecosystems

- The three components or attributes of rangeland health are:
 - *Water, energy, and nutrients*
 - *Soil stability, hydrologic function, and biotic integrity*
 - *Similarity index, productivity, and ecological site*
 - *Production, erosion, plant diversity*





Lesson 12: Evaluating Health of Rangeland Ecosystems

- The indicators that describe rills, water flow patterns bare ground, and gullies apply to:
 - *Soil stability and hydrologic function*
 - *Hydrologic function and biotic integrity*
 - *Soil stability and biotic integrity*
 - *None of the above*



Lesson 13: Role of Fire in Rangeland Ecosystems

- T/F Removal of fire from grassland ecosystems has resulted in less diverse plant communities.



Lesson 13: Role of Fire in Rangeland Ecosystems

- In general which group of plants is the most fire resistant growth form?
 - *Trees*
 - *Shrubs*
 - *Grasses*
 - *Forbs*

Lesson 14: Habitat Needs of Rangeland Animals



- In the US, which group of animals is experiencing the greatest declines?
 - *Reptiles and amphibians*
 - *Mammals*
 - *Grassland Birds*
 - *Woodland birds*



Lesson 14: Habitat Needs of Rangeland Animals

- A relationship between two species in which one benefits at the expense of the other is:
 - *Antagonism*
 - *Predation*
 - *Parasitism*
 - *All of the above*



Lesson 15: AU, AUM, Stocking Rates, and Carrying Capacity

- The average amount of forage that one animal unit (AU) will consume during a month is:
 - *An AUM (Animal Unit Month)*
 - *780 # dry forage*
 - *Both of the above*
 - *None of the above*



Lesson 15: AU, AUM, Stocking Rates, and Carrying Capacity

- There will always be a stocking rate problem – see Lesson 15 for examples.



Lesson 16: Range Management and Conservation Practices on Rangeland

- T/F The appropriate amount of time that a land unit can be grazed does not depend weather conditions such as drought, extreme cold or excessive high temperatures.



Lesson 16: Range Management and Conservation Practices on Rangeland

- T/F A livestock pipeline should not be implemented in areas with sandy soils it will take many years for grass to re-establish.
- On level terrain, the recommended distance between watering facilities for livestock under an intensive grazing system is:
 - $\frac{1}{4}$ mile
 - $\frac{1}{2}$ mile
 - $\frac{3}{4}$ mile
 - 1 mile



Lesson 17: Grass Seedings

- T/F Improved varieties are not important in grass seedings because most prairie grasses are found throughout the US.
- Rancher Jones wants to seed a 50 acre field to grass. 6 pls pounds / acre of a specific grass mix are needed to achieve the recommended 20 pure live seeds / ft². How much bulk seed with 70% purity and 90% germination are needed for this project?
 - 300 pounds
 - 476 pounds
 - 333 pounds
 - 428 pounds



Lesson 18: Prescribed Burning

- The elements of the fire triangle are:
 - *Speed, Direction, and intensity*
 - *Fuel, continuity, chemical composition*
 - *Oxygen, heat, fuel*
 - *Grasses, trees, shrubs*



Lesson 18: Prescribed Burning

- T/F A burn site is steeply sloping, has a heavy fuel load with a lot of large, dead materials, and the fuel moisture is low. This fire will tend to be low intensity.



Lesson 19: Prescribed Grazing

- T/F A prescribed grazing plan consists of a schedule of the order in which pastures will be grazed and for how long.
- A grazing rotation which includes several pastures each of which is grazed for part of the grazing season is:
 - *Rest rotation*
 - *Deferred rotation*
 - *Patch burn grazing*
 - *Continuous grazing*



Lesson 20: Monitoring Grazing

- Line point intercept, modified step point, and 10-pin frames can be used to monitor:
 - *Canopy and foliar cover*
 - *Basal cover*
 - *Litter cover*
 - *All of the above*



Lesson 20: Monitoring Grazing

- The monitoring tool in the photo is called a:
 - *Daubenmire frame*
 - *10-pin frame*
 - *Frequency plot*
 - *Robel pole*

State Contest

- State contest will always have a number of hands on questions.
 - *Usually ½ of the questions*
- These questions will vary based on the location and what there is to work with on site.
- These will include some of the following: identifying the season of growth, growth form, origin or lifespan of flagged plants.
- Identifying an ecological site (key will be provided)
- Will be some questions that involve use of monitoring tools.
 - *Measuring litter cover, or bare ground, or canopy cover*
 - *Identifying monitoring tools*
 - *Using the Robel Pole*

ANSWERS

- SLIDE 2:

*1ST Question – WILL DEPEND
UPON WHERE THE STATE
ENVIROTHON IS BEING HELD*

*2ND QUESTION – Flint Hills (KS &
OK)*

- SLIDE 3:

1ST Question – Cherry County

2ND Question – Cultural

3rd Question - Supporting

- SLIDE 4:

1ST Question – 160 acres

2ND Question– Ogallala

3rd Question – 43%

4th Question – Alaska

- SLIDE 5

1st Question – Grass

2nd Question – Native

3rd Question - Cool

ANSWERS

- SLIDE 6-9:

*All four plants are legumes.
American vetch, prairie buckbean,
Platte lupine and breadroot
scurfpea (all have the “pea-like”
flower structure).*

- SLIDE 10:

Ligule

- SLIDE 11:

Purple loosestrife

- SLIDE 12:

False (Wavyleaf thistle)

- SLIDE 13-15:

13 = White Penstemon

14 = Shell leaf Penstemon

*15 = Blowout Penstemon (federally
endangered)*

- SLIDE 16

- *Ute Ladies Tresses & Western
Prairie Fringed Orchid*
- *Colorado Butterfly plant is on
State endangered list.*

ANSWERS

- SLIDE 17:
17 primary toxic plants
- SLIDE 18:
Woolly locoweed
- SLIDE 19:
All listed
- SLIDE 20:
50%
- SLIDE 21:
*Plant species, vegetation states,
grazing*
- SLIDE 22
Reference State
- SLIDE 23
Choppy Sands
- SLIDE 24
Limy Upland

ANSWERS

- SLIDE 25:
Soil stability, hydrologic function, biotic integrity
- SLIDE 26:
Soil stability and hydrologic function
- SLIDE 27:
True
- SLIDE 20:
Grassland birds
- SLIDE 30:
All are correct
- SLIDE 31
Both of above
- SLIDE 33
False
- SLIDE 34
1st Question – False
2nd Question – 1/4 mile

ANSWERS

- SLIDE 35:
 - 1st Question – False*
 - 2nd Question - 476*
- SLIDE 36:
 - Oxygen, Heat Fuel*
- SLIDE 37:
 - False*
- SLIDE 38:
 - 1st Question – False*
 - 2nd Question – Deferred Rotation*
- SLIDE 39:
 - All are correct*
- SLIDE 40
 - Daubenmire Frame*