

Student's Name \_\_\_\_\_

<b>Directions:</b>	Evaluate the trainee using the rating scale below and check the appropriate number to indicate the degree of competency achieved. The numerical ratings of 3, 2, 1, and 0 are not intended to represent the traditional school grading system of A, B, C, D, and F. The descriptions associated with each of the numbers focus on level of student performance for each of the tasks listed below.
<b>Rating Scale:</b>	<b>0 - No Exposure</b> - no information nor practice provided during training program, complete training required. <b>1 - Exposure Only</b> - general information provided with no practice time, close supervision needed and additional training required. <b>2 - Moderately Skilled</b> - has performed independently during training program, limited additional training may be required. <b>3 - Skilled</b> - can perform independently with no additional training.

1. Number of Competencies Evaluated	_____
2. Number of Competencies Rated 2 or 3	_____
3. Percent of Competencies Attained (2/1)	_____
Grade	_____
Instructor Signature	Date

**01.0 Our Natural Resources Then and Now**

The student will be able to:

- 0 1 2 3
- 01.01 Match terms associated with natural resources with their definitions
  - 01.02 Define and discuss the concept of natural resources
  - 01.03 List and describe the major categories of nature resources in America
  - 01.04 Explain what makes something a natural resource
  - 01.05 Explain why nature's resources once seemed limitless, and why this is no longer true
  - 01.06 Describe how the usefulness of a natural resource change over time, and what factors most effect their usefulness
  - 01.07 Identify the land area of the United States, indicating how much is suitable for farming, and how much is suitable for crop production
  - 01.08 Explain why there is a water shortage problem in this country
  - 01.09 Indicate how many species of wild animals, birds, and fish have become extinct in this country since colonial times
  - 01.10 Diagram the forested area of this country 300 years ago compared to today, and explain how our smaller forest area produces more wood today
  - 01.11 Explain what the direct or indirect source of most of our energy resources is
  - 01.12 List our key mineral resources and what their known reserves are

**02.0 A History of Conservation in the United States**

The student will be able to:

- 0 1 2 3
- 02.01 Define terms associated with conservation of our natural resources
  - 02.02 Compare exploitation, conservation, and preservation as they related to natural resources management
  - 02.03 Outline the history of conservation in the United States
  - 02.04 Describe the role of the federal government in conservation
  - 02.05 Explain why Americans have had such wasteful practices in using our natural resources in the past
  - 02.06 Discuss what would have happened to our fish and game animal populations if sport hunters and fisherman had not fought market hunters
  - 02.07 Indicate who pays for wildlife conservation in this country
  - 02.08 Explain what the Weeks Law of 1911 was, and why it was important
  - 02.09 Explain the concept of a soil and water conservation district, and how it works
  - 02.10 Explain how the federal government helped local farmers and other landowners work to solve their soil and water conservation problems
  - 02.11 Explain why soil and water conservation is a federal concern
  - 02.12 List the three needs that early water management efforts in America centered around

### 03.0 Principles of Ecology-Ecosystem Structure

The student will be able to:

- 0 1 2 3
- 03.01 Define ecology and explain its subdivision structure
  - 03.02 List the characteristics of all living organisms, describe the term irritability and give examples of irritability
  - 03.03 Describe the process of evolution including the concepts of natural selection and adaptation
  - 03.04 Explain how genetic change could result in the major changes that occur in evolution and what role the environment plays in evolution
  - 03.05 Define the term biosphere and explain why the biosphere is considered a closed system naming some closed systems
  - 03.06 Define the term biome and explain what determines the type of vegetation in a biome
  - 03.07 Define the term ecosystem and explain some common features of all ecosystems
  - 03.08 Describe the abiotic components of the ecosystem and how these factors affect plant and animal life
  - 03.09 Discuss the concept "range of tolerance"
  - 03.10 Explain a limiting factor and tell what the limiting factor is in most terrestrial ecosystems
  - 03.11 Discuss the terms niche and habitat
  - 03.12 Discuss the statement: no two organisms can occupy the same niche in the same habitat
  - 03.13 Explain an ecological equivalent and give an example

### 04.0 Principles of Ecology-Ecosystem Function

The student will be able to:

- 0 1 2 3
- 04.01 Explain a food chain, discussing the two major types of food chain, how they are different and how they are similar
  - 04.02 Sketch several simple food chains and indicate all producers and consumers
  - 04.03 Explain microconsumers and why they are important
  - 04.04 Explain biomass and how it is measured
  - 04.05 Discuss why biomass decreases as we ascend the food chain
  - 04.06 Define the following terms: consumer, producer, trophic level and food web
  - 04.07 Explain cellular respiration and why carbon dioxide is released during respiration in producers and consumers

0 1 2 3

- 04.08 Explain the implications of decreasing biomass in the food chain and how affects the number of higher-level consumers
- 04.09 Define the terms gross primary productivity and net primary productivity, explaining the most productive regions of the earth and why or why not these can be tapped for food
- 04.10 Draw the carbon cycle, and describe what happens during the various parts of the cycle
- 04.11 Draw the nitrogen cycle and list organisms that fix atmospheric nitrogen and why this is critical to the operation of the nitrogen cycle
- 04.12 Draw and describe the phosphorus cycle
- 04.13 Define the following terms: predation, commensalism, mutualism, neutralism and competition, comparing them for similarities and differences

### 05.0 Principles of Ecology-Ecosystem Balance and Imbalance

The student will be able to:

0 1 2 3

- 05.01 Describe ecosystem stability and give examples of stable ecosystems
- 05.02 If you were to examine a mature ecosystem over the course of 30 years at the same time each year, discuss why you would expect the number of species in the ecosystem and the population size of each of these species to be the same from year to year or not
- 05.03 Define inertia and resilience
- 05.04 Explain environmental resistance and the role it plays in population balance and ecosystem balance
- 05.05 Define the term species diversity and give evidence that species diversity affects ecosystem stability and any evidence contradicting this idea
- 05.06 Discuss a mature ecosystem and its major features
- 05.07 Describe temporary imbalances caused in ecosystems you are familiar with and how the ecosystem returns to normal
- 05.08 Explain succession and why one biotic community eventually is replace by another during succession
- 05.09 Discuss a pioneer community
- 05.10 Discuss why environmental resistance changes during succession as one community is gradually replaced by another and in what ways human populations change environmental resistance and how that affects our population

- 0 1 2 3  
 05.11 Describe how introducing and removing competitors into an ecosystem can affect ecosystem stability and give examples  
 05.12 Discuss why it is necessary for humans to simplify their ecosystem and how it may be avoided and give some examples

### 06.0 Concepts of Natural Resources Management

The student will be able to:

- 0 1 2 3  
 06.01 Match the terms and concepts of natural resource management with their definitions  
 06.02 Explain the differences between nonexhaustible, renewable, and exhaustible natural resources  
 06.03 Discuss the concept of balance in natural ecosystems  
 06.04 Discuss the role of food chains in maintaining balanced ecosystems  
 06.05 Discuss the role of ecology in human efforts at natural resources management  
 06.06 Define an ecosystem  
 06.07 Define man's ecosystem  
 06.08 Discuss some ways that nature is balanced  
 06.09 Trace the human population level over the past 8000 years  
 06.10 Discuss differences between conservation and preservation

### 07.0 Introduction to Range Science

The student will be able to:

- 0 1 2 3  
 07.01 Define or describe the terms associated with range science  
 07.02 List and describe the various uses of range lands  
 07.03 Describe the most common limiting factor associated with rangeland  
 07.04 List the approximate amounts of rangeland in the world, the United States, and Idaho  
 07.05 Identify the regions or the states consisting of the most range land

### 08.0 History and Policies of Range Science Before 1934

The student will be able to:

- 0 1 2 3  
 08.01 List the opportunities that the western ranges offered early pioneers  
 08.02 Describe the effects cattle and sheep had on rangelands from 1825 - 1886

- 0 1 2 3  
 08.03 Date and describe the following Acts that relate to range science:  
 a. Homestead Act  
 b. Timber Culture Act  
 c. Desert Land Act  
 d. Enlarged Homestead Act  
 e. Stock Grazing Homestead Act  
 f. Forest Reserve Act  
 g. Soil Erosion Service  
 08.04 Explain what happened to range management during World War I

### 09.0 History and Policies of Range Science After 1933

The student will be able to:

- 0 1 2 3  
 09.01 Date and describe why the Taylor Grazing Act was established  
 09.02 List the three goals of the Taylor Grazing Acts Administration  
 09.03 Date and describe why range inventories were taken  
 09.04 Explain what the BLM did to prevent over/grazing  
 09.05 Describe and explain commensurate and priority property  
 09.06 Explain why grazing permits were allocated  
 09.07 Define carrying capacity  
 09.08 Date and describe the major legislation that stimulated range restoration and management  
 09.09 Date and describe Land Adjustment and Utilization projects  
 09.10 Date and describe the Halogeton Control Act

### 10.0 Range Classification

The student will be able to:

- 0 1 2 3  
 10.01 Summarize each type of physical range classification  
 10.02 Describe the range vegetation in Idaho as described by the Forest Service after 1911  
 10.03 List 10 of the 18 forage types that were designated to cover the western range region, by the Interagency Range Survey Committee  
 10.04 List the vegetation units occurring in Idaho, as described by Kuckler  
 10.05 Describe the best basis for obtaining uniformity in classification  
 10.06 Define or describe the terms associated with range classification  
 10.07 Summarize the vegetative features of each vegetative zone in Idaho

### 11.0 Grazing Systems

The student will be able to:

- 0 1 2 3  
 11.01 List and describe the four principles of a grazing system  
 11.02 List and describe the six objectives of a grazing system  
 11.03 Define the terms associated with grazing systems  
 11.04 Describe the five requirements of a successful grazing system  
 11.05 List and describe the advantages and disadvantages of the grazing systems presented

### 12.0 Rangeland Ecology and Physiology

The student will be able to:

- 0 1 2 3  
 12.01 List and describe the three climatic factors  
 12.02 Define soil, soil texture, and soil structure  
 12.03 List the five soil forming factors  
 12.04 List and describe the two types of range soils  
 12.05 List and describe the four topographic factors and how they affect an ecosystem  
 12.06 Describe the three types of fire climax communities  
 12.07 List the entropic factors and describe their effects on the ecosystem  
 12.08 Indicate the best measure of sight capacity  
 12.09 List the four factors involved in the physical description of an ecosystem  
 12.10 Describe the two interactions within a plant community  
 12.11 Describe the three primary concerns in the management of an ecosystem or plant community  
 12.12 Define terms associated with range ecology  
 12.13 Describe the regression of plant cover  
 12.14 Describe physiological disturbance and composition change

### 13.0 Range Inventories

The student will be able to:

- 0 1 2 3  
 13.01 List and describe the four types of range inventories  
 13.02 Explain what is meant by primary and secondary site degradation  
 13.03 Explain what is meant by the terms range condition, and trend and how they are related  
 13.04 Describe a multiple use survey and its uses  
 13.05 Explain what a range appraisal is

0 1 2 3

- 13.06 List the five types of information provided by a range inventory  
 13.07 Explain the primary purpose of a range inventory  
 13.08 Describe the term sampling error and explain how it occurs and how it may be reduced  
 13.09 List and describe the factors that are included in a vegetational inventory  
 13.10 Describe plant dominance, its attributes, and how it is measured

### 14.0 Carrying Capacity

The student will be able to:

0 1 2 3

- 14.01 Explain what is meant by the term carrying capacity  
 14.02 List the factors that are used to determine the carrying capacity of a particular area  
 14.03 Explain the term proper use factor  
 14.04 Describe how an animal unit and animal unit month are measured  
 14.05 List the animal equivalents for common range wildlife  
 14.06 Describe limited stocking rate and how it is used  
 14.07 Explain range condition and trend assessment and how they are related  
 14.08 Explain condition classifications and how index ratings are used to assess them  
 14.09 Describe the difference between apparent trend estimates and true trends  
 14.10 Explain a climax condition is determined in a range community

### 15.0 Range Improvement

The student will be able to:

0 1 2 3

- 15.01 Explain the two types of range improvements, indirect and direct  
 15.02 Explain the relationship between range management and range improvement  
 15.03 List the two ecological principles that range improvements must be based on  
 15.04 List and describe the seven reasons for range improvement  
 15.05 Identify those plants that are undesirable in a typical range community and explain the accepted measures used to control them