

## **CONTENT STANDARD 1.0: EXPLORE NATURAL RESOURCE SCIENCE AND MANAGEMENT**

### **Performance Standard 1.1: Investigate the Relationship Between Natural Resources and Society, Including Conflict Management**

- 1.1.1 Define natural resource management.
- 1.1.2 Summarize the history of natural resource conservation and policies.
- 1.1.3 List and compare major natural resource management agencies, industries, and organizations.
- 1.1.4 Describe human dependency and demands on natural resources.
- 1.1.5 Explain natural resource conservation.
- 1.1.6 Investigate the effects of multiple uses of natural resources (e.g., recreation, mining, agriculture, forestry, public lands grazing).
- 1.1.7 Explore societal issues and conflicts related to natural resource management.

### **Performance Standard 1.2: Explain Interrelationships Between Natural Resources and Humans in Managing Natural Environments**

- 1.2.1 Identify the demands of population growth on natural resources and the environment.
- 1.2.2 Examine the use and management of renewable and nonrenewable resources.
- 1.2.3 Describe the role of individuals in stewardship of the environment.
- 1.2.4 Research and debate current issues related to the conservation or preservation of natural resources.

## **CONTENT STANDARD 2.0: INVESTIGATE ECOLOGICAL CONCEPTS AND SCIENTIFIC PRINCIPLES RELATED TO NATURAL RESOURCE SYSTEMS**

### **Performance Standard 2.1: Explore Ecological Principles in Natural Resource Management**

- 2.1.1 Define ecosystems and biomes and identify ecoregions of Idaho.
- 2.1.2 Identify natural processes that govern ecosystems over time.
- 2.1.3 Describe the interdependence of organisms within an ecosystem (e.g., food chains and webs).
- 2.1.4 Investigate the processes associated with ecological succession.
- 2.1.5 Explain the importance of biodiversity.

### **Performance Standard 2.2: Explore Properties of Soil**

- 2.2.1 Summarize soil formation factors.
- 2.2.2 Identify soil texture.
- 2.2.3 Describe soil conservation practices.
- 2.2.4 Analyze and interpret soil data.

### **Performance Standard 2.3: Explore Principles of Hydrology**

- 2.3.1 Define watersheds and explain their hydrological and ecological function.
- 2.3.2 Discriminate between point and nonpoint pollution sources.
- 2.3.3 Analyze and interpret water quality data.

- 2.3.4 Describe the function of wetlands and importance of wetland management.
- 2.3.5 Identify laws and regulations governing water.

## **CONTENT STANDARD 3.0: EXPLORE PRINCIPLES OF RANGELAND MANAGEMENT**

### **Performance Standard 3.1: Identify Rangeland Types and Management Practices**

- 3.1.1 Define rangelands and identify key characteristics.
- 3.1.2 Identify major rangeland types in Idaho.
- 3.1.3 Compare public and private management of rangelands.
- 3.1.4 Identify multiple uses of rangelands.
- 3.1.5 Identify laws, policies, and managing entities of rangelands.
- 3.1.6 Identify impacts of use on rangelands.

### **Performance Standard 3.2: Understanding the Historic, Environmental, Social, and Economic Importance of Idaho Rangelands**

- 3.2.1 Understand how rangelands have been important to humans throughout time.
- 3.2.2 Identify the ecological services provided by rangelands.
- 3.2.3 Recognize the value of rangelands to society.
- 3.2.4 Understand the importance of working rangelands for the economic livelihood of Idaho and other parts of the country and world.

### **Performance Standard 3.3: Identify Common Idaho Rangelands Plants**

- 3.3.1 Identify morphological characteristics of rangeland plants.
- 3.3.2 Use a dichotomous key to identify rangeland plants.
- 3.3.3 Assemble a plant collection.
- 3.3.4 Identify important Idaho rangeland plants and evaluate their use by animals.
- 3.3.5 Define native, introduced, invasive, noxious, and poisonous plants.

### **Performance Standard 3.4: Apply Rangeland Management Practices**

- 3.4.1 Identify key components of a management plan.
- 3.4.2 Identify rangeland management tools and techniques.
- 3.4.3 Use rangeland measurement tools.
- 3.4.4 Conduct a rangeland inventory and interpret data.
- 3.4.5 Determine stocking rates based on animal demand and forage supply.
- 3.4.6 Discuss the impacts of dynamic forces of change on rangelands (e.g., fire, weather, insects, disease, people, animals, invasive species) and identify management strategies.

## **CONTENT STANDARD 4.0: EXAMINE FOREST RESOURCES AND MANAGEMENT**

### **Performance Standard 4.1: Identify Forest Types and Management Practices**

- 4.1.1 Define forests and identify key characteristics.
- 4.1.2 Identify major forest types in Idaho.
- 4.1.3 Assess different methods of forest management.
- 4.1.4 Compare public and private management of forests.
- 4.1.5 Identify multiple uses of forests.
- 4.1.6 Identify laws, policies, and managing entities of forests.

- 4.1.7 Identify impacts of use on forests.

## **Performance Standard 4.2: Understanding the Historic, Environmental, Social, and Economic Importance of Idaho Forests**

- 4.2.1 Understand how forests have been important to humans throughout time.
- 4.2.2 Identify the ecological services provided by forests.
- 4.2.3 Recognize the value of forests to society.
- 4.2.4 Understand the importance of working forests for the economic livelihood of Idaho and other parts of the country and world.

## **Performance Standard 4.3: Identify Common Idaho Forest Plants**

- 4.3.1 Identify morphological characteristics of forest plants.
- 4.3.2 Use a dichotomous key to identify trees, shrubs, and other forest plants.
- 4.3.3 Assemble a plant collection.
- 4.3.4 Identify important Idaho forest plants and evaluate their use by animals.
- 4.3.5 Define native, introduced, invasive, noxious, and poisonous plants.

## **Performance Standard 4.4: Apply Forest Management Practices**

- 4.4.1 Identify key components of a management plan.
- 4.4.2 Identify forest management tools and techniques.
- 4.4.3 Use forest measurement tools.
- 4.4.4 Conduct a forest inventory and interpret data.
- 4.4.5 Define silviculture and compare different timber harvest systems.
- 4.4.6 Discuss impacts of dynamic forces of change (e.g., fire, weather, insects, disease, people, animals, invasive species) on forests and identify management strategies.

## **CONTENT STANDARD 5.0: EXPLORE FIRE ECOLOGY AND MANAGEMENT**

### **Performance Standard 5.1: Explore the Effects of Fire on Rangeland and Forest Ecosystems**

- 5.1.1 Explain the significance of each of the components of the “fire triangle.”
- 5.1.2 Discuss the fire behavior triangle (fuel, weather, topography).
- 5.1.3 Interpret the factors affecting fire frequency in Idaho past, present, and future.
- 5.1.4 Describe the social, economic, and ecological effects of wildland fire.
- 5.1.5 Examine the role of fuel management and the relationship between fuel load and fire effects in rangeland and forest ecosystems.

## **CONTENT STANDARD 6.0: UNDERSTAND THE IMPORTANCE AND APPLICATION OF GPS/GIS IN NATURAL RESOURCE MANAGEMENT**

### **Performance Standard 6.1: Investigate GPS/GIS Systems and Their Applications**

- 6.1.1 Define the uses of geographic information systems (GIS) and spatial analysis as it applies to natural resource management.
- 6.1.2 Describe the purpose and function of a Global Positioning System (GPS).
- 6.1.3 Demonstrate the ability to use a GPS unit by navigating and collecting waypoints.

### **Performance Standard 6.2: Demonstrate the Use of Land Management Maps**

- 6.2.1 Use legal descriptions to identify locations and acreage.
- 6.2.2 Identify symbols on topographical maps.
- 6.2.3 Predict terrain based on topographical maps.
- 6.2.4 Demonstrate the ability to find GPS locations on a topographic map.

## **CONTENT STANDARD 7.0: INVESTIGATE FISH AND WILDLIFE ECOLOGY**

### **Performance Standard 7.1: Explore the Importance and Distribution Fish and Wildlife Resources in Idaho**

- 7.1.1 Identify the seven categories of wildlife.
- 7.1.2 Connect the distribution of wildlife associated with private and public land.
- 7.1.3 Describe the importance of wildlife, including indigenous and migratory species, their physical and behavioral characteristics, habitat and management.
- 7.1.4 List impacts on wildlife habitat.
- 7.1.5 Describe techniques used in harvesting of wildlife.
- 7.1.6 Summarize appropriate outdoor safety practice.
- 7.1.7 Describe techniques of wildlife habitat improvement.

### **Performance Standard 7.2: Understand Wildlife Management**

- 7.2.1 Identify the agencies and organizations associated with wildlife management.
- 7.2.2 Explore the role of USDA - Wildlife Services, DOI – US Fish and Wildlife Service, and Idaho Fish & Game concerning wildlife management.

## **CONTENT STANDARD 8.0: EXAMINE MINERAL AND ENERGY RESOURCES MANAGEMENT**

### **Performance Standard 8.1: Examine Mineral Resources and Management**

- 8.1.1 Identify local mineral resources.
- 8.1.2 Summarize the impact of mineral resources to society.
- 8.1.3 Compare the various practices for obtaining mineral resources.
- 8.1.4 Describe the impact of mining practices on the environment.
- 8.1.5 Compare processes for reclaiming areas where minerals have been extracted.

### **Performance Standard 8.2: Recognize the Types and Importance of Energy Resources**

- 8.2.1 Differentiate between renewable and nonrenewable energy resources.
- 8.2.2 Investigate types of renewable resources.
- 8.2.3 Compare types of electrical power generation.
- 8.2.4 Analyze positive and negative impact of energy development on the environment.

## **CONTENT STANDARD 9.0: EXPLORE CAREER OPPORTUNITIES IN THE NATURAL RESOURCE INDUSTRY**

### **Performance Standard 9.1: Understand Employment Fields in the Natural Resource Industry**

- 9.1.1 List and describe the types of employment opportunities in natural resource management.

- 9.1.2 Explore education and training for different natural resource management careers.
- 9.1.3 Describe the process of choosing a career path in the natural resource management industry.

## **CONTENT STANDARD 10.0: PARTICIPATE IN LEADERSHIP TRAINING THROUGH MEMBERSHIP IN A STUDENT LEADERSHIP ORGANIZATION**

### **Performance Standard 10.1: Recognize the Traits of Effective Leaders and Participate in Leadership Training Through Involvement in a Student Leadership Organization**

- 10.1.1 Expand leadership experience by serving as a chapter officer or on a committee.
- 10.1.2 Exhibit leadership skills by demonstrating proper parliamentary procedure.
- 10.1.3 Participate in a career development event at the local level or above.

## **CONTENT STANDARD 11.0: DESCRIBE THE RELATIONSHIP BETWEEN A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) AND PREPARATION OF STUDENTS FOR A CAREER IN AGRICULTURE**

### **Performance Standard 11.1: Maintain a Supervised Agricultural Experience**

- 11.1.1 Accurately maintain SAE record books.
- 11.1.2 Apply for a proficiency award related to the SAE program area.
- 11.1.3 Actively pursue necessary steps to receive higher degrees or recognition in a student leadership organization.