



## ANSWER KEY

### Exercise: 1

**Instructions:** Vegetation is a critical resource in Idaho because it provides ground cover that protects from wind and water erosion, it cleans our water in healthy watersheds, and it provides food and shelter for animal species. There are about 3,000 species of plants that make up the vegetation in Idaho. Countless species of microscopic plants also live in Idaho's soils and waterways. The Digital Atlas contains lots of information on the soils and climate on which Idaho's plant species depend. It also contains vegetation maps of the state and a photo archive of many of Idaho's plant species.

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1. Why does fire play such an important role for the growth of many types of vegetation? Fire can play an important role in the natural habitats by removing ground cover and opening the habitat for recolonization. Fire plays different roles in different habitats. In forests and prairie grasslands, fire can be important for regeneration because it clears organic matter, old litter, and debris allowing regrowth. This allows germination of dormant seeds within the soil. The seeds of some forest species cannot germinate unless they have experienced fire. In sagebrush steppe habitats fire is infrequent and only occurs every 120 years under natural circumstances. However, with invasion by cheatgrass and other weeds fires now occur every five or six years on average. Idaho's native shrubs, bunch grasses, and forbs cannot survive such frequent fires.
2. What is secondary succession? After an area is cleared as a result of fire or some other disturbance, the canopy is open so sunlight can reach the forest floor. Colonization into the area by small weeds and flowering plants occurs first and shrubs occur last. This process is called secondary succession.
3. Describe the relationship that sometimes takes place between certain fungi and tree roots. Fungi and tree roots can form a symbiotic relationship. Saplings provide sugar to the fungi and the fungi provide nutrients to the sapling.
4. What is a noxious weed? What is an introduced species? Why are introduced species often also noxious weeds? Should we devote resources to getting rid of noxious weeds and introduced species? Why or why not? An introduced species is a species brought in by mankind that otherwise would not be in an area. Noxious weeds are non-native species that are often invasive. Noxious weeds can displace native plants and cause a loss of biodiversity. People spend a lot of time and money trying to control these species.
5. What are some significant factors that determine vegetation distribution? Topography, soil type, climate (temperature and water availability), and the presence of other species are some of the most significant factors in determining patterns of vegetation distribution.
6. Why is a wetland considered a natural filter system as well as a sponge? Wetlands are considered a natural filter system because they remove toxins from water as well as sediment. They are sponges because they also soak up water and can reduce floods. They reduce the amount of erosion that otherwise could be caused.
7. What indicators are used to classify an area as a wetland? Three major characteristics are used to classify an area as a wetland: Vegetation, Soil, and Hydrology. Certain types of plant species as well as gray mottling in soil indicate an area is a wetland. Hydrology indicators such as watermarks on trees and debris also indicate an area is a wetland. Hydrological wetland soils are saturated with water for a significant part of the year.
8. Distinguish between a forb, grass, and shrub. A forb is a plant that is small in stature and often has showy flowers. Forbs are often annual plants, but can also be biennial or perennial. Grasses have long leaves shaped like blades and a hollow stem. They reproduce with seeds and creeping stems. A shrub is a woody plant less than 10 feet tall with several stems branching from the ground.

