

2009 Current Issues Field Test: Answers

1. What is biodiversity? 10 Points

Biodiversity is the variety and variability of life on Earth. This includes all of the plants and animals that live and grow on the Earth, all of the habitats that they call home, and all of the natural processes of which they are a part

www.wordnet.princeton.edu

2. What range of strategies or tools can be used to help promote and sustain biodiversity in Conifer Forests? 15 points

Maintaining representation of a full range of ecosystem types is an accepted strategy to conserve biodiversity in protected areas (e.g., Pressey et al. 1993; Margules and Pressey 2000) and increasingly recognized as a key component of maintaining biodiversity in landscapes managed for forestry (Franklin 1993; Lindenmayer and Franklin 2002; Bunnell et al. 2003; Wells et al. 2003). Unmanaged areas are especially important to sustain species that we know little about, and for providing an ecological baseline against which effects of human activities can be compared (Arcese and Sinclair 1997).

Maintaining habitat types and forest structures that are both important for species and are affected by forest practices has long been recognized as an important strategy for maintaining species in forested landscapes (e.g., Thomas 1979; Bunnell et al. 1999; Lindenmayer and Franklin 2002). Maintaining critical habitat for species known to be vulnerable is an accepted fine filter approach in landscapes managed for forestry (Lindenmayer and Franklin 2002; Bunnell et al. 2003)

3. Explain why biodiversity is important to the economy. 10 Points

Provides food for people through commercial fisheries and agriculture:

- We utilize our forest products in lumber and paper production.
- We recreate through fishing, hunting, birding, and other activities that involve flora and fauna.
- We receive income from tourists who come to enjoy living resources.

www.undp.org/biodiversity/biodiversitycd/biolmport.htm

4. How would damming a river affect biodiversity? 10 Points

- Increased agriculture may replace native plant communities with monocultures (e.g., fields of corn).
- Reduced or eliminated flooding events downstream of reservoir may harm native riparian communities. These communities depend on floods for seed germination, for replenishing soils with nutrients and to increase shallow groundwater.
- Diversion of irrigation water to canals may create new riparian areas along these new waterways.

http://extension.usu.edu/waterquality/files/uploads/PDF/FINAL_SSS_PDFS/Activity_11.pdf

5. Which of the following are considered endangered species? 5 Points
(Circle all that apply)

X Golden Eagle

Field Mouse

X Tehachapi, Slender Salamander

Blue Oak

X Blue Martin

X Bakersfield Cactus

X California Condor

X Blunt Nosed Lizard

Sharpe Nosed Lizard

X Striped Adobe Lilly

California Poppy

Coyote

www.dec.ny.gov/animals/7096.html

6. What is an invasive species? 10 points

When the introduction of a nonnative species causes or is likely to cause economic, environmental, or human health damage, it is called an invasive species. An ***invasive species*** is defined as a species that is

1. Nonnative to the ecosystem under consideration, and
2. Whose introduction causes or is likely to cause economic or environmental harm, or to cause harm to human health.

www.dcnr.state.pa.us/FORESTRY/wildplant/invplants.aspx

7. Why is biodiversity important to Agriculture? 10 Points

Biodiversity is the origin of all crops and domesticated livestock and the variety within them. Biodiversity in agricultural and associated landscapes provides and maintains ecosystem services essential to agriculture.

Agriculture contributes to conservation and sustainable use of biodiversity but is also a major driver of biodiversity loss. Farmers and agricultural producers are custodians of agricultural biodiversity and possess the knowledge needed to manage and sustain it.

Sustainable agriculture both promotes and is enhanced by biodiversity. Sustainable agriculture uses water, land and nutrients efficiently, while producing lasting economic and social benefits. Barriers inhibiting its widespread adoption need to be reduced.

Agricultural producers respond to consumer demands and government policies. To ensure food security, adequate nutrition and stable livelihoods for all, now and in the future, we must increase food production while adopting sustainable and efficient agriculture, sustainable consumption, and landscape level planning that ensure the preservation of biodiversity.

[http://english.mep.gov.cn/download/Documents/200806/P020080603430792943555.p
df](http://english.mep.gov.cn/download/Documents/200806/P020080603430792943555.pdf)

8. What is a Conservation Easement? 10 Points

A conservation easement is a voluntary agreement that allows a landowner to limit the type or amount of development on their property while retaining private ownership of the land. The easement is signed by the landowner, who is the easement donor, and the Conservancy, who is the party receiving the easement. The Conservancy accepts the easement with understanding that it must enforce the terms of the easement in perpetuity. After the easement is signed, it is recorded with the County Register of Deeds and applies to all future owners of the land.

<http://landtrust.org/ProtectingLand/EasementInfo.htm>

9. What are some examples of Biodiversity benefits? 5 Points (List at least 3 examples)

BIOLOGICAL RESOURCES

- Food for humans and other organisms
- Medical and pharmaceutical resources
- Breeding populations (crops, biological resources)

ECOSYSTEM SERVICES

- Protection of water resources
- Protection of soil
- Nutrient recycling and storage
- Pollution control
- Climate stability

SOCIAL BENEFITS

- Recreation and tourism
- Research and education
- Cultural value
- Aesthetics

**Information provided by
Susan Testroet –Bergeron**



10. What is Biota? 5 Points

All organisms in a given area- The total compliment of animals and plants in a particular area

Reference: Encarta Dictionary

11. Where is most of the biodiversity of the Earth located? 10 Points

Even though they cover less than 10 percent of the planet's land surface, tropical rainforests contain more than half of all species. The rainforests of Central and South America, equatorial Africa and Southeast Asia are home to millions of species of plants and animals. Coral reefs, the "rainforests of the sea," are home to one-quarter of all marine life.

Deserts, prairies, wetlands, estuaries, ocean bottoms, mountain tops, temperate forests—even city parks, school yards, and backyards—are all home to diverse communities of plants and animals.

<http://nationalzoo.si.edu/ConservationAndScience/MAB/about/faqs.cfm#where>

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