Missouri Science Scoring Rubric

Item ID: 937745

Grade: 8

Scoring Guide: 6-8.LS2.C.2

Score	Description
2	This response demonstrates a thorough understanding of evaluating benefits and limitations of differing design solutions for maintaining an ecosystem by • predicting how government-regulated hunting of white-tailed deer by humans could have a positive impact on an ecosystem that includes a deer population; and • predicting one possible impact on the biodiversity of an ecosystem with an overcrowded deer population after the reintroduction of a large predator species. **The response is clear, complete, and correct.*
1	This response demonstrates a thorough understanding of one of the two key elements. **The response may contain some work that is incomplete or unclear.*
0	The response provides insufficient evidence to demonstrate any understanding of the concept being tested.

Exemplar Responses:

Part A (1 point)

- Hunting could help reduce deer numbers, which would allow plants, such as young trees and shrubs, to grow and reproduce at a greater rate. Reducing the deer population would reduce their feeding on these plants, which allows them to grow.

OR

- Hunting could help reduce deer numbers, which would allow plants, such as young trees and shrubs, to grow and reproduce at a greater rate. This increase in plant growth would allow other organism populations that feed on young trees and shrubs to survive and grow.

Part B (1 point)

- The biodiversity of the ecosystem would increase. The large predator introduction would help reduce the deer population. This would allow plants to grow back, providing food for a variety of other plant-eating species. This would result in greater biodiversity since the numbers of other species supported by the increased plant growth would be greater than when the deer were the main plant-eaters in the area.

OR

- The biodiversity of the system could decrease if the large predators also eat other plant-eating species. The large predators might reduce the deer species and other plant-eating species, which would reduce overall biodiversity.