

Rubric (10 points)

1. (1 point)

Abiotic components (0.25 points each): air, pH, soil, temperature, humidity, salinity, water/moisture, sunlight, wind, precipitation, rocks and minerals...

Biotic components (0.25 points each): disease agents, organisms (primary producers, consumers, etc.)...

2. (1 point)

(0.25 point deduction for each incorrect categorization; more than 4 incorrect categorizations results in a 0)

factors	density-dependent	density-independent
weather		X
birth rate	X	
food availability	X	
predation	X	
wildfires		X
migration	X	

3. (1 point)

(0.25 point deduction for each incorrect categorization; more than 4 incorrect categorizations results in a 0)

factors	passive	active
electrofishing		X
trapping	X	
surveillance	X	
beach seining		X
telemetry	X	
fyke netting		X

4. (1 point)

By purchasing licenses (0.50 points) AND by paying taxes on equipment (0.50 points)

5. (1 point)

Utilitarian attitude

6. (1 point)

Climate change, urbanization/urban sprawl, human population growth, habitat fragmentation, pollution, disease, introduced/invasive species, aquaculture, global trade, competing needs for water/food, etc.... (0.25 points each)

7. (1 point)

B – Recruitment decreases is there are too many mature adult alewives in the population

8. (2 points)

grass → rabbit; bison; elk → wolf

(1 point deduction for excluding any organisms from model; 0.50 point deduction for failing to use words/lines/arrows to model trophic interactions; 0.50 point deduction for modeling clearly inappropriate trophic interactions)

9. (1 point)

Advanced environmental science and management movement on a global scale, exposed the damage caused by DDT to wildlife, called for responsible and careful future management of our natural resources, heightened knowledge and awareness of negative anthropogenic impacts on the environment, etc....

10. (0 points)

NA