

EEB 2208 (Introduction to Conservation Biology)

Sample Test Questions: Lectures 18-21

Before attempting to answer these questions, make sure you read the document titled “Exam Format Information”, which is posted on the web site under “Important course documents”. That document explains how to answer questions on my exams.

For the following sets of questions identify all answers that are correct. Each numbered item is worth 1 point.

The CT DEEP plans to restore an area of grassland on an old landfill in Hartford. The goal is to restore all of the ecological functions of the historic grasslands, but only some of the species that occurred there historically because the site is too small to support area-sensitive species. Which of the following statements about the project apply?

1. This project is an example of site rehabilitation.
2. This project meets the Society of Ecological Restoration’s definition of ecological restoration.
3. Doing nothing more than putting topsoil on the landfill is one option for restoration.
4. A good reference site for this project would be a natural grassland with the full complement of functions and species that the DEEP hopes to see at the restored site.
5. Controls should be set up to determine whether active restoration was necessary.

Which of the following statements about habitat corridors are true?

6. Corridors facilitate gene flow.
7. Corridors help to prevent population fragmentation.
8. Corridors can act as sink habitat.
9. Corridors can help invasive species to spread.
10. Corridors can help endangered species to persist.

The town of Mansfield is conducting a study of the effects of clearing invasive plants in town parks. They want to know whether using pesticides is more effective than removing plants by mechanical means. To study this question, they plan to use pesticides throughout one of their parks and mechanical methods at another. They will then measure the number of invasive plants in fifty 1-m² plots at each park and compare the two sets of numbers. Which of the following statements are accurate?

11. The management treatments in this study are well replicated.
12. Ideally the investigators would determine which park gets which type of management, randomly.
13. A strength of this study is the use of controls.
14. A strength of this study is the absence of confounding factors.
15. With this study design the investigators cannot answer their question very well.

In 2001, Rodrigues and Gaston published a survey of studies designed to estimate the amount of land that needs to be protected within given areas to provide protection for a target group of organisms. Which of the following statements accurately describe the findings of this survey?

16. The mean amount of land that needed protection was close to the IUCN recommendation for the proportion of land area a country should strive to protect for conservation.
17. The mean amount of land that needed protection was about half of the total area.
18. In some cases about two-thirds of the total land area needed to be protected.
19. In some cases less than 1% of the total land area needed to be protected.
20. One important factor in determining how much land needed protection was the average range size of the target species.

Which of the following statements about the design of reserve networks are true?

21. Large reserves are generally better than small reserves.
22. All other things being equal, the best shape for a reserve is generally a circle.
23. Several small reserves can sometimes be better than one large reserve of equal area.
24. Small reserves are always more effective when they are widely spaced.
25. Maximizing the amount of edge habitat in a reserve network is important.

Large nest boxes are commonly used to help manage for wood ducks. Which of the following recommendations would reduce the effectiveness of using nest boxes to manage this species? (3 points)

26. Clumping boxes in groups of ten.
27. Hiding boxes deep in the woods.
28. Building boxes with two compartments.
29. Placing boxes in a dense tangle of vegetation.
30. Placing boxes on tall poles in the middle of a pond.

31. In recent years, Starbucks has started selling “shade-coffee” and claiming that this decision has environmental benefits. What is shade-coffee and what benefits does it provide? (3 points)

32. Define the following terms and give an example of each. (6 points)

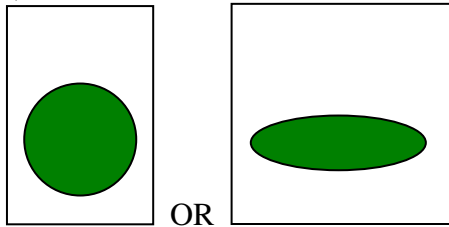
Ecological mitigation:

Mesopredator:

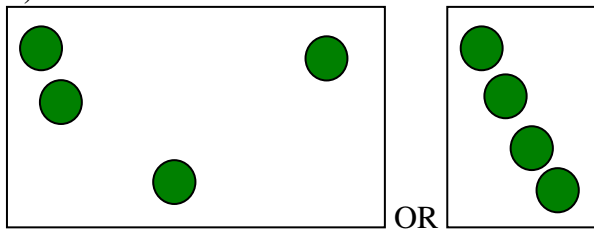
Adaptive management:

33. For each of the following pairs of reserve design, explain which option is best and why. In each case you can assume that the total area of protected land is the same for both choices. For each example also give a reason why the option that you selected as best might not be the better choice. (6 points)

i)



ii)



iii)

