

## **APES Final Exam Study Guide Fall 2017**

1. Define ecology.
2. What is meant by sustainable yield?
3. Explain the difference between point and nonpoint pollution. Give some examples in your explanation.
4. What is meant by a positive feedback loop? Describe a problem in an environmental setting that demonstrates a positive feedback loop.
5. Define hydrosphere, biosphere, geosphere, lithosphere, and atmosphere.
6. How is a biome defined? What is the most important factor in determining a biome's location?
7. Define autotroph, herbivore, carnivore, omnivore, detritivore and decomposer.
8. What is being compared at each trophic level in a pyramid of biomass, a pyramid of energy, and a pyramid of numbers?
9. Review the hydrologic cycle. Identify the source that drives it.
10. Define evolution, natural selection, genetic drift, geographic isolation, and discuss the importance of mutations.
11. What are the adaptations of humans that have made them so successful?
12. How many mass extinctions of 25-70% of species have occurred in earth's history?
13. Define species richness.
14. What are the differences between generalist and specialist species?
15. Identify and explain which of the following species would be considered a specialist species; Raccoon, Cockroach, Giant Panda.
16. List the specific roles species can play within an ecosystem.
17. A species in an ecosystem that plays a central role in the health of that ecosystem, and whose removal may cause the collapse of the ecosystem, is called what?
18. Define foundation species.
19. Give an example of interspecific competition.
20. A tapeworm in the intestines of an organism, living off of energy from food that organism consumes, is an example of a what?
21. Multiple species cannot share the same ecological niche for an extended period of time due to what principle?
22. Give an example of coevolution.
23. A classic example of \_\_\_\_\_ is the relationship a clownfish has with a sea anemone.

24. What is the biotic potential of a population?
25. What are the age structure categories?
26. When a population has grown to a point at which its habitat can no longer be sustained without degradation, that population likely has reached its \_\_\_\_\_.
27. On a population vs. time graph, a J-shaped curve represents what type of growth?
28. Native prairie grasses show strong \_\_\_\_\_, as they are able to survive brush fires, a moderate disturbance.
29. Define tipping point.
30. Differentiate between climate and weather.
31. What is the primary limiting factor for rain forest?
32. Differentiate between habitats, populations, communities, ecosystems, and biomes.
33. Describe the relative biodiversity of marine species in the coastal, euphotic, bathyal, and abyssal zone.
34. How are the 3 types of lakes (eutrophic, mesotrophic, and oligotrophic) different?
35. What is background extinction?
36. Species are viewed as having instrumental value and/or intrinsic (existence) value. What is the difference between the different types of value placed on species?
37. What are the threats to species? Which of these is the greatest threat?
38. What is the effect of habitat fragmentation?
39. Describe the overall purpose of CITES and the ESA.
40. What are the two types of forest fires? Which one is more destructive/dangerous?
41. Define deforestation and the 3 major methods (selective, clear, and strip).
42. Describe how rangelands and pastures are different from each other and savannahs.
43. What are issues affecting national parks in the US?
44. Define wilderness.
45. What does the acronym HIPPCO stand for?
46. What impact do trawlers have on ocean-floor ecosystems?
47. What is the difference between biological and commercial extinction?
48. What countries still practice whaling today?
49. Where is most human population growth taking place?

50. The human population growth curve will transition from a J shaped curve to what shape in the 21<sup>st</sup> century?
51. What are crude birth and death rates?
52. What do age structure diagrams represent?
53. What are some reasons that women might choose to have fewer children?
54. What is the root cause of food insecurity?
55. What does the term undernutrition mean?
56. What has industrialized agriculture done to many crops?
57. What causes soil erosion?
58. What are some advantages to modern synthetic pesticides?