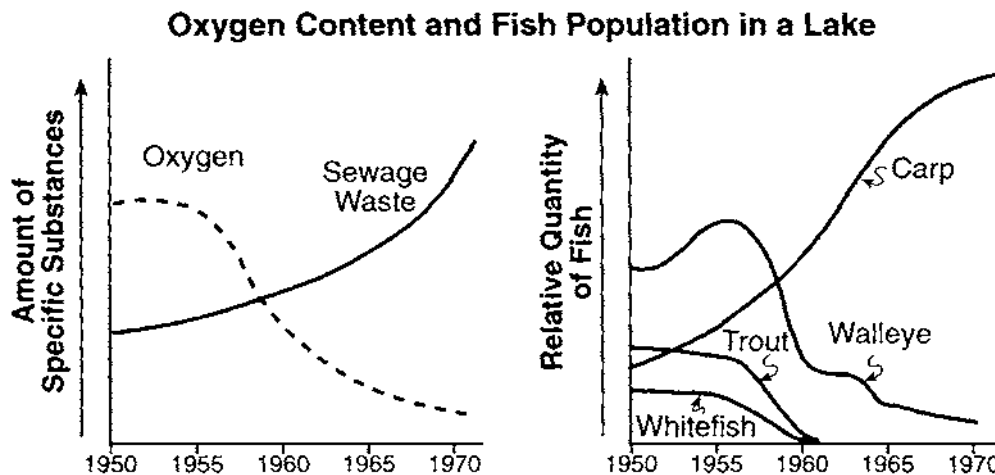
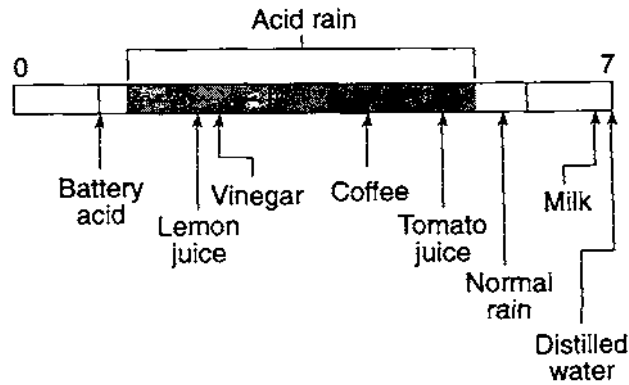


1. Recent evidence indicates that lakes in large areas of New York State are being affected by acid rain. The major effect of acid rain in the lakes is
- (1) an increase in game fish population levels (3) **the elimination of many species of aquatic life**
- (2) the stimulation of a rapid rate of evolution (4) an increase in agricultural productivity
2. The lower part of the Hudson River contains large amounts of polychlorinated biphenyls (PCB's) and heavy metals. Which statement best explains their presence in the river?
- (1) They are introduced by environmentalists to kill sewage bacteria.
- (2) They are the decomposition products of river organisms.
- (3) They were accidentally spilled into the river by fishermen.
- (4) **They were discharged into the river as manufacturing byproducts.**
3. Which relationship can correctly be inferred from the data presented in the graphs below?



- (1) **As sewage waste increases, oxygen content decreases.**
- (2) As sewage waste increases, oxygen content increases.
- (3) As oxygen content decreases, carp population decreases.
- (4) As oxygen content decreases, trout population increases.
4. Which human activity has probably contributed most to the acidification of lakes in the Adirondack region?
- (1) passing environmental protection laws
- (2) establishing reforestation projects in lumbered areas
- (3) **burning fossil fuels that produce air pollutants containing sulfur and nitrogen**
- (4) using pesticides for the control of insects that feed on trees
5. Toxic chemicals called PCBs, produced as a result of manufacturing processes, were dumped into the Hudson River. What was most likely a result of this action on fish in the Hudson River?
- (1) **Some fish became unfit to eat.**
- (2) The fish populations increased.
- (3) Thermal pollution of the river increased, decreasing the fish population.
- (4) The carrying capacity for fish increased in the river.
6. An activity that would help to ensure a suitable environment for future generations is the increased use of
- (1) fossil fuels (2) pesticides (3) **biological controls** (4) chemical dumps

7. A portion of a pH scale is shown below.



Which substance identified on the scale has a pH closest to the pH of the most acidic acid rain?

- (1) **Battery acid** (2) Lemon juice (3) Tomato juice (4) Normal rain

8. Fertilizers used to improve lawns and gardens may interfere with the equilibrium of an ecosystem because they

- (1) cause mutations in all plants (3) **can be carried into local water supplies**
(2) cannot be absorbed by roots (4) cause atmospheric pollution

9. Dumping raw sewage into a river will lead to a reduction in dissolved oxygen in the water. This reduction will most likely cause

- (1) an increase in all fish populations (3) an increase in depth of the water
(2) **a decrease in most aquatic animal populations** (4) a decrease in water temperature

10. African elephant tusks consist of high-quality ivory. In recent years, the elephant population in certain African wildlife preserves has decreased. This decrease is most likely due to

- (1) air pollution (3) biocide use
(2) **human exploitation** (4) importation of Japanese beetles

11. Some animal and plant species are in danger of becoming extinct because of

- (1) an increase in human population controls (3) the rapid reproduction of these species
(2) **the exploitation of these species for their products** (4) an increase in available food supplies

12. In an attempt to prevent certain species from becoming extinct, humans have

- (1) placed all endangered species in zoos
(2) increased the trapping of predators
(3) **increased wildlife management and habitat protection**
(4) attempted to mate organisms from different species to create new and stronger organisms

13. Many governments are limiting the use of toxic pesticides and enforcing stricter hunting and fishing laws. These efforts are attempts to

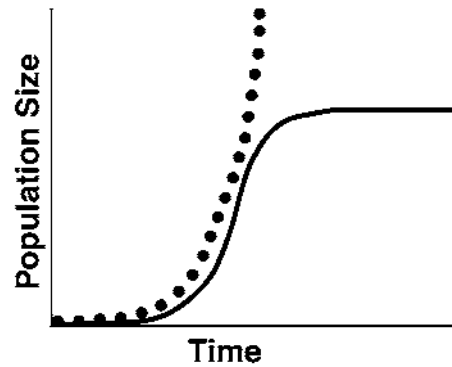
- (1) produce nonbiodegradable pollutants (3) develop new farming techniques
(2) **prevent species extinction** (4) increase importation of organisms

14. Some negative effects of human activities on the environment can be counteracted by increasing

- (1) growth of the human population (3) **enforcement of pollution control laws**
(2) use of pesticides (4) use of non-biodegradable materials

15. Recycling solid wastes is an example of
- (1) utilizing covercropping techniques
 - (2) preventing erosion in landfills
 - (3) eliminating sulfur pollutants from the atmosphere
 - (4) **conserving natural resources without harming the environment**
16. In New York State, organizations like The Nature Conservancy have bought many hundreds of acres of wetlands in order to
- (1) make the land suitable for farming
 - (2) prevent erosion in forests
 - (3) encourage biological control of pests
 - (4) **preserve plant and animal habitats**
17. The creation of wildlife refuges and the enforcement of game laws are conservation measures that promote increased
- (1) use of biocides
 - (2) **preservation of species**
 - (3) use of biological controls
 - (4) exploitation of species
18. One practice that has successfully increased the number of bald eagles in the United States is the
- (1) **protection of their natural habitat**
 - (2) importation of food to their nesting sites
 - (3) preservation of other eagle species that occupy the same niche
 - (4) increased use of pesticides
19. Endangered peregrine falcons have been bred in captivity and released in areas where they prey on pigeons and rodents. These activities are examples of
- (1) **species preservation and biological control**
 - (2) overhunting and direct harvesting
 - (3) recycling and technological development
 - (4) conservation of resources and habitat destruction
20. Which human activity would most likely result in the addition of an organism to the endangered species list?
- (1) cover cropping
 - (2) use of pollution controls
 - (3) use of erosion controls
 - (4) **habitat destruction**
21. Chittenango Falls State Park in central New York State is the only known habitat for an endangered species of aquatic snail. Contamination of its water supply and reduction of its habitat have threatened the future of this snail. Which step could be taken to protect this species of snail?
- (1) **banning human activities that damaged the habitat**
 - (2) introducing a new snail predator into the habitat
 - (3) transferring the snail to a terrestrial environment
 - (4) crossbreeding the snail with another species
22. Which action by humans has had the most positive ecological impact on the environment?
- (1) use of pesticides to regulate insect populations
 - (2) importation of organisms such as the Japanese beetle and the zebra mussel into the United States
 - (3) overhunting of many predators to prevent the death of prey animals
 - (4) **reforestation and covercropping to prevent soil erosion**
23. In some areas, foresters plant one tree for every tree they cut. This activity is an example of
- (1) lack of management of nonrenewable natural resources
 - (2) **a good conservation practice for renewable natural resources**
 - (3) a good conservation practice for nonrenewable natural resources
 - (4) lack of concern for renewable natural resources

24. The dotted line on the graph below represents the potential size of a population based on its reproductive capacity. The solid line on this graph represents the actual size of the population.

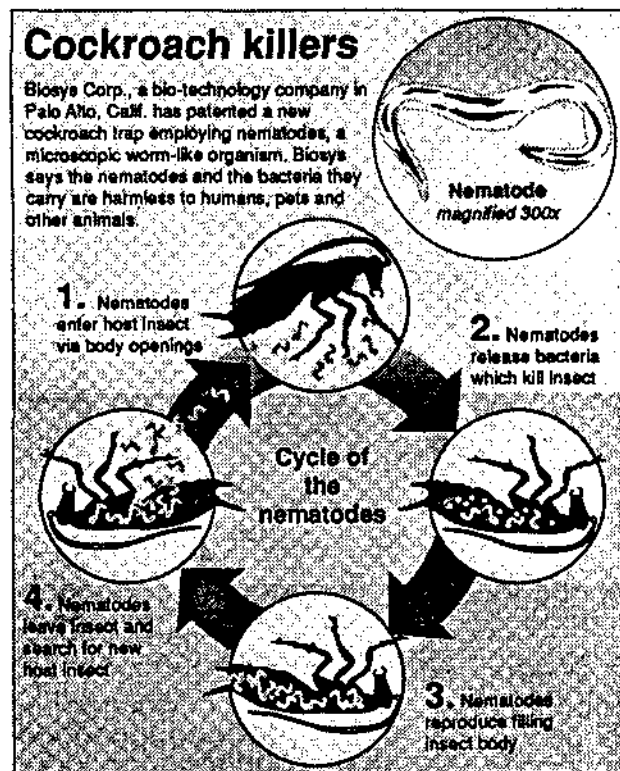


Which statement best explains why the actual population growth is *less* than the potential population growth?

- (1) **Resources in the environment are limited.**
(2) More organisms migrated into the population than out of the population.
(3) The birthrate gradually became greater than the death rate.
(4) The final population size is greater than the carrying capacity.
25. Which action that man has taken in an attempt to solve an ecological problem has had the most negative effect?
(1) seeking better means of birth control in human population
(2) applying scientific farming techniques to oceans
(3) **producing stronger and more effective pesticides and insecticides**
(4) developing new techniques for the disposal of sewage and industrial and chemical wastes
26. Why is the use of pesticides such as DDT being discouraged in many countries?
(1) Crop production may increase because of their use. (3) All insects are immune to them.
(2) **They disrupt food webs.** (4) They do not enter material cycles.
27. Which is an example of a biological control of a pest species?
(1) DDT was used to destroy the red mite.
(2) Most of the predators of a deer population were destroyed by humans.
(3) **Gypsy moth larvae (a tree defoliator) are destroyed by beetle predators which were cultured and released.**
(4) Drugs are used in the control of certain pathogenic bacteria.
28. *Bacillus popilliae* is a bacterium which causes "milky disease" in the Japanese beetle. Using *Bacillus popilliae* to decrease a Japanese beetle population is an example of the
(1) abiotic control of insect pests (3) use of artificial insecticides
(2) **use of biological control of insect pests** (4) destruction of the abiotic environment
29. Ladybugs were introduced as predators into an agricultural area of the United States to reduce the number of aphids feeding on grain crops. This action is an example of
(1) **biological control of insect pests** (3) conservation of natural resources
(2) preservation of endangered species (4) protection of watersheds
30. Which human activity has been banned in most areas because of its negative impact on the biosphere?
(1) reforestation and covercropping (3) biological control of pests
(2) **use of DDT to control insects** (4) management of wildlife

31. Which method of combating insect pests is *least* likely to affect other animal species, disrupt food webs, and contaminate the land?
- (1) **using biological controls** (3) using powdered pesticides
(2) employing fluid biocides (4) draining wetlands
32. Which negative human environmental influence is matched with the positive influence that has helped to correct it?
- (1) overhunting – pollution controls (3) importation of organisms – energy conservation
(2) disposal problems – species preservation (4) **pesticide use – biological control of insects**
33. Which activity would most likely control an insect pest and be the *least* harmful to the environment?
- (1) spraying areas with biocides that affect the insect pest
(2) releasing imported insects that prey on the insect pest
(3) **using traps baited with sex hormones to attract the insect pest**
(4) eliminating the plants that the insect pest feeds on
34. Large numbers of white-tailed deer on Long Island are infected with ticks that transmit Lyme disease to other mammals. One attempt to control reproduction of these ticks has been the release of large numbers of sterilized male ticks. This method would be viewed as
- (1) pollution control (2) species preservation (3) biocide use (4) **biological control**
35. Before it was banned, the insecticide DDT was used, to combat an organism called the red mite. An unexpected result of the use of DDT was that the population of the red mite increased rather than decreased, while the population of insect predators of the red mite declined. What is the most probable explanation of this phenomenon?
- (1) **Part of the red mite population was resistant to DDT and its predators were not.**
(2) DDT is highly general in the kinds of insects it affects, killing both beneficial and harmful species.
(3) The red mite population could use DDT as a nutrient, while the predators could not.
(4) DDT triggered a mutation in the red mite population, making it immune to the effects of the chemical.
36. The use of ladybugs and praying mantises to consume insect pests in gardens is an example of
- (1) **biological control of insect pests** (3) abiotic control of insect pests
(2) exploitation of insect pests (4) use of biocides to control insect pests
37. Releasing sterilized male insects of a certain species into the environment can lead to a reduction in population size of that species. This process is an example of
- (1) **the use of biological control** (3) the effect of pesticides on reproduction rate
(2) the use of a biocide (4) a technique used for species preservation
38. Farmers sometimes release praying mantises into their fields to consume other insects that destroy crops. This action is an example of
- (1) **biological control of insect pests** (3) a technological oversight
(2) chemical control of insect pests (4) exploitation of wildlife
39. Many people place bat boxes on their property to provide housing that attracts insect-eating bats. This activity has a positive effect on the environment because it represents an increased use of
- (1) saprophytic relationships (3) **biological controls**
(2) biocides (4) herbicides

40. Which human activity would be more likely to have a negative impact on the environment than the other three?
- (1) using reforestation and cover cropping to control soil erosion
 - (2) **using insecticides to kill insects that compete with humans for food**
 - (3) developing research aimed toward the preservation of endangered species
 - (4) investigating the use of biological controls for pests
41. Before it was banned, the insecticide DDT was used to combat an organism called the red mite. An unexpected result of the use of DDT was that the population of the red mite increased rather than decreased, while the population of insect predators of the red mite decreased. What can be inferred from this situation?
- (1) **Environmental changes that affect one population can affect other populations.**
 - (2) The red mite and its insect predators were all competing for the same resources.
 - (3) The red mites were immune to the effects of insecticides.
 - (4) Using insecticides is a reliable way to eliminate all insect predators.
42. Which human activity would most likely have a positive impact on the environment?
- (1) using pesticides to decrease populations of birds of prey
 - (2) increasing emissions into the atmosphere to decrease the pH of lakes
 - (3) **using parasites for biological control of pests to increase crop yields**
 - (4) engaging in uncontrolled hunting and trapping to reduce populations of carnivores
43. The diagram below shows how an insect trap is used to kill cockroaches.



This insect trap is an example of

- (1) exploitation of organisms
- (2) **biological control**
- (3) herbicide use
- (4) competition between species