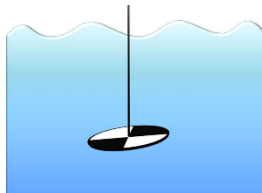


2025 Area IV Aquatics Test

1. As the velocity of a stream decreases, what happens to the size of particles that it can carry?
 - a. It is only able to carry smaller particles.
 - b. It is only able to carry larger particles.
 - c. It can carry any size particles.
 - d. It can carry both large and small particles.
2. The steeper the gradient of a water source,
 - a. the less erosion occurs
 - b. the more erosion occurs
 - c. the more variable erosion occurs
 - d. the less likely erosion occurs
3. What is erosion?
 - a. Any bit of rock or soil that is suspended or carried in water.
 - b. Water pollution that comes from a broad area or a number of sources.
 - c. The movement of solid material such as rock, soil or mud.
 - d. The absence of movement of solid material such as rock, soil or mud
4. Which of the following is the most important indicator of a healthy aquatic ecosystem in Lost Creek?
 - a. Water temperature
 - b. pH level
 - c. Dissolved oxygen concentration
 - d. Turbidity
5. What are the living parts of an environment are called?
 - a. Abiotic factors
 - b. Biotic factors
 - c. Producers
 - d. Predators
6. Watershed boundaries are determined by?
 - a. Political boundaries
 - b. Elevation of the surrounding area
 - c. The size of the river
 - d. The gradient of a river
7. Which of the following is a common source of nutrient pollution affecting freshwater systems like Lost Creek?
 - a. Natural leaf litter
 - b. Wildlife activities
 - c. Agricultural runoff containing fertilizers
 - d. Stormwater

8. Lentic aquatic ecosystems are divided into zones based on two basic limiting factors: _____ and _____.
- Nutrients and sunlight
 - Nutrients and oxygen
 - Temperature and sunlight
 - Temperature and oxygen
9. The largest number of individuals of a species that an environment can support and maintain for a long period of time is its _____.
- Population
 - Max
 - Carrying Capacity
 - Capacity
10. Water pollution coming from a single point is called?
- Non-Point Source Pollution
 - Point Source Pollution
 - Soil Pollution
 - Water Pollution
11. Pollution discharged over a wide land area, not from one specific location.
- Non-Point Source Pollution
 - Point Source Pollution
 - Soil Pollution
 - Water Pollution
12. Where is most of the Earth's fresh water stored?
- Oceans
 - Ice Caps and Glaciers
 - Wetlands
 - Ground Water
13. What is this instrument?
- Water Disk
 - Secchi Disk
 - Water Beaker
 - Van Dorn



14. What water quality parameter is this instrument (pictured above) used to measure?
- Turbidity
 - Flow
 - Dissolved Oxygen
 - Phosphates
15. The best example of a lentic habitat is: _____.

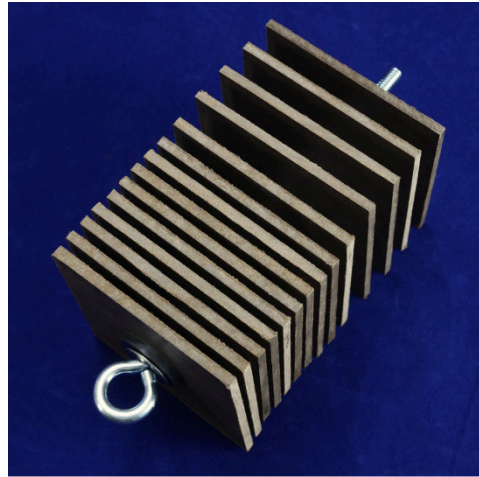
- a. River
- b. Pond
- c. Spring
- d. Creek

16. The best example of a lotic habitat is: _____.

- a. Bog
- b. Pond
- c. Lake
- d. Creek

17. What is this macroinvertebrate monitoring device pictured here?

- a. Transparency Tube
- b. Hester Dendy
- c. Flow Meter
- d. Kick Seine



18. When conducting a bio-assessment of aquatic macro-invertebrates in a stream, which of the following aquatic macro-invertebrate assemblages are the most sensitive to pollution:

- a. Blood midge, aquatic worm, crayfish
- b. Dragonfly nymph, damselfly nymph, crane fly larvae
- c. Pouch snails, leeches, beetle larvae
- d. Dobsonfly larvae, stonefly larvae, riffle beetle

19. What is the primary function of riparian zones along Lost Creek?

- a. They provide habitats exclusively for terrestrial mammals.
- b. They serve as buffer areas that filter pollutants and stabilize banks.
- c. They increase water temperature and reduce dissolved oxygen.
- d. They are areas where invasive species thrive.

20. What pH range is needed for optimum aquatic life in our streams?

- a. 5-7
- b. 0-14
- c. 6.5-8.5
- d. 7-9

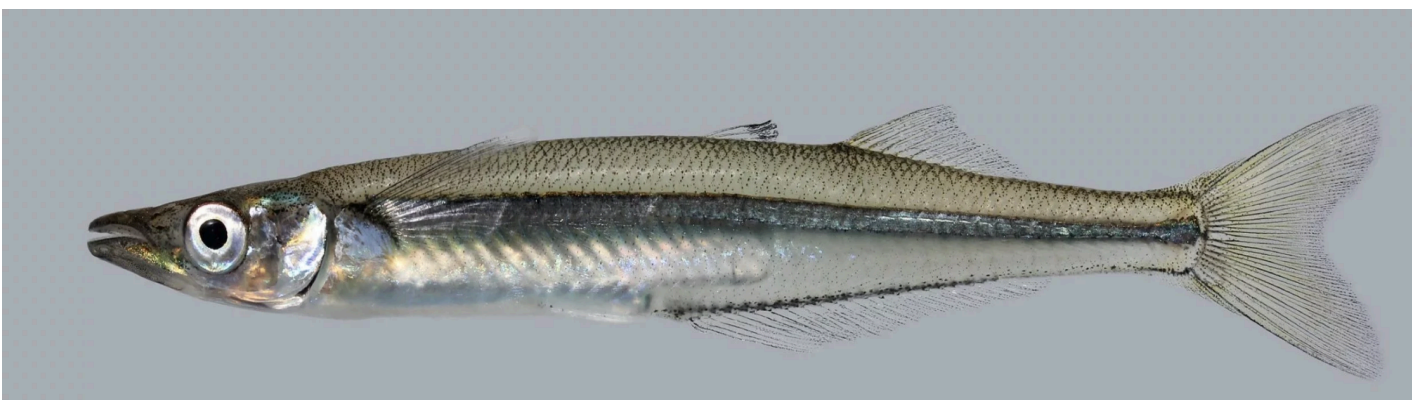
21. The *Clean Water Act* helped solve many of Ohio's traditional pollution problems. However, remaining problems, linked to nonpoint source pollution, are more challenging. Which of the following is not a way to reduce non-point source pollution?
- Remove all woody vegetation from headwater tributaries.
 - Manage nutrient application according to site specific risk assessment.
 - Provide natural or artificial buffers to reduce runoff volume and delivery rate during rain and runoff events.
 - Remove physical impoundments such as low-head dams from streams and rivers, to improve natural flow and stream ecology.
22. Stream substrate is:
- Inorganic and organic particles on the stream bed (e.g., cobbles, sand, silt).
 - The area of land that drains into a stream.
 - The portion of storm water or snow melt that enters a stream.
 - Downward entry of water into the soil.
23. The area of land that drains to a lake, stream or river is called?
- Estuary
 - Watershed
 - Wetland
 - Marsh
24. What type of aquatic habitat in Lost Creek is characterized by shallow, fast-moving water with rocky substrates?
- Pools
 - Riffles
 - Backwaters
 - Wetlands
25. What is Total Maximum Daily Load (TMDL)?
- A calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.
 - A calculation of the minimum amount of a pollutant that a water body can receive and still safely meet water quality standards.
 - A calculation of the equal amount of a pollutant that a water body can receive and still safely meet water quality standards.
 - A calculation of the average amount of a pollutant that a water body can receive and still safely meet water quality standards.
26. Riparian corridors provide habitat for terrestrial animals. What do riffles in a stream do for aquatic macroinvertebrates?
- Increase dissolved oxygen levels
 - Provide nutrient poor water
 - Cause erosion
 - Provide nursery beds

Site Specific Questions on NEXT PAGE

27. Ohio's Scenic Rivers Stream Quality Monitoring Assessment Form has three distinct sections for macroinvertebrate data collection. These sections are listed as Group 1 Taxa, Group 2 Taxa and Group 3 Taxa that classify sensitive to tolerant pollution macroinvertebrates. During a field collection, someone finds these specimens found on the table. What "group" would these macroinvertebrates be in?
- a. Group 2 Taxa
 - b. Group 1 and 2 Taxa
 - c. Group 3 Taxa
 - d. Group 1 and 3 Taxa
28. Which fish species is commonly found in freshwater environments like Lost Creek?
- a. Picture A
 - b. Picture B
 - c. Picture C
 - d. All of the species
29. This species goes through which type of metamorphosis?
- a. Complete
 - b. Incomplete
 - c. None at all
 - d. Both complete and incomplete
30. Which of the following invasive species poses a significant threat to Ohio waterways, including Lost Creek?
- a. Picture A
 - b. Picture B
 - c. Picture C
 - d. Picture D



Question 28 Picture A



Question 28 Picture B

Question 28 Picture C



Question 29



Question 30 Picture A



Question 30 Picture B



Question 30 Picture C



Question 30 Picture D

