

2025 Area 2 Envirothon – AQUATICS

1. Identify the aquatic plant labelled 1
 - A. **Gray Willow, *Salix cinerea***
 - B. Black Willow, *Salix nigra*
 - C. Ninebark, *Physocarpus opulifolius*
 - D. Buttonbush, *Cephalanthus occidentalis*
2. 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.
3. 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
4. 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.
5. Identify the aquatic plant labelled 2
 - A. American Reed, *Phragmites americanus*
 - B. Soft Rush, *Juncus effusus*
 - C. **Reed Canary Grass, *Phalaros arundinacea***
 - D. Dark Green Bulrush, *Scirpus atrovirens*
6. What are abiotic and biotic factors (e.g., fish, plants, macros, air, water, etc.)?
 - A. **Nonliving and living factors**
 - B. Biological Oxygen Demand
 - C. Decomposition
 - D. Water factors
7. The living parts of an environment are called?
 - A. Abiotic factors
 - B. **Biotic factors**
 - C. Producers
 - D. Predators

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8. 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
9. Which of the following is NOT needed for an organism's survival?
 - A. Air
 - B. Space
 - C. Technology**
 - D. Shelter
10. Identify the aquatic plant labelled 3.
 - A. Dark Green Bulrush, *Scirpus atrovirens*
 - B. Hemp Dogbane, *Apocynum cannabinum***
 - C. Fringed Sedge, *Carex crinite*
 - D. Silky Dogwood, *Cornus amomum*
11. Lentic aquatic ecosystems are divided into zones based on two basic limiting factors:
 - A. Nutrients and sunlight
 - B. Nutrients and oxygen**
 - C. Temperature and sunlight
 - D. Temperature and oxygen
12. The largest number of individuals of a species that an environment can support and maintain for a long period of time is its?
 - A. Population
 - B. Max
 - C. Carrying Capacity**
 - D. Capacity
13. Water pollution coming from a single point is called?
 - A. Non-Point Source Pollution
 - B. Point Source Pollution**
 - C. Soil Pollution
 - D. Water Pollution
14. Pollution discharged over a wide land area, not from one specific location.
 - A. Non-Point Source Pollution**
 - B. Point Source Pollution
 - C. Soil Pollution
 - D. Water Pollution
15. Identify the aquatic plant labelled 4.

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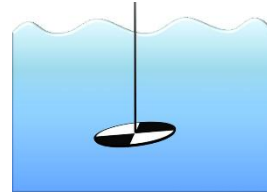
- A. **Red Osier Dogwood, *Cornus sericea***
- B. Silky Dogwood, *Cornus amomum*
- C. Swamp Rose, *Rosa palustris*
- D. Turtlehead, *Chelone glabra*

16. Where is most of the Earth's fresh water stored?

- A. Oceans
- B. **Icecaps and Glaciers**
- C. Wetlands
- D. Ground Water

17. What is the instrument in **Picture 1**?

- A. Water Disk
- B. **Secchi Disk**
- C. Water Beaker
- D. Van Dorn



Picture 1

18. What water quality parameter is the instrument in **picture 1** used to measure?

- A. **Turbidity**
- B. Flow
- C. Dissolved Oxygen
- D. Phosphates

19. Mayflies go through which type of metamorphosis?

- A. Complete
- B. **Incomplete**
- C. None at all
- D. Both complete and incomplete

20. Identify the aquatic plant labelled **5**.

- A. Queen of the Prairie, *Filipendula rubra*
- B. Swamp Rose, *Rosa palustris*
- C. Blue Vervain, *Verbena hastata*
- D. **Babys Breath, *Gypsophila paniculata***

21. The best example of a lentic habitat is.

- A. River
- B. **Pond**
- C. Spring
- D. Creek

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22. The best example of a lotic habitat is.
- A. Bog
 - B. Pond
 - C. Lake
 - D. Creek**
23. When conducting a bioassessment 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**
24. Sediment production in watersheds is generated by rill, gully and what other type of erosion?
- A. Sheet**
 - B. Blanket
 - C. Cover
 - D. Organic
25. 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

All DONE!

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Matt Wallace for the site-specific aquatic plant ID questions!