

**1999 Wisconsin Envirothon
Water Resources Questions**

1. Identify the following aquatic insects using common names. (i.e. Dragonfly) (2 points)
2. Define Non-Point Source Pollution. (1 point)
3. List four examples or types of sources that would be defined as Non-Point. (2 points)
4. Match the following (1/2 point each, 6 total)
 - ___ pH
 - ___ Dissolved Oxygen
 - ___ Conductivity
 - ___ Benthos
 - ___ Oligotrophic
 - ___ Phosphorus
 - ___ Watershed
 - ___ Eutrophic
 - ___ Habitat
 - ___ Littoral Zone
 - ___ Ammonia
 - ___ Anaerobic
 - A. An unproductive and nutrient poor lake
 - B. A nutrient that can lead to overfertilized conditions and algae blooms when in surface waters
 - C. Area of shallow water where light penetrates to the bottom allowing for rooted plant growth in a lake
 - D. The land area draining to a lake, stream or river
 - E. The measure of Hydrogen ion concentration of a solution
 - F. A productive nutrient rich lake
 - G. Low levels in water are often a result of significant organic loading
 - H. The place or type of site where a plant or animal naturally lives and grows
 - I. The organisms living in or on the bottom of a lake or stream
 - J. A measure of the electrical current carrying capacity of water. An approximate measure of total dissolved ions in the water.
 - K. A form of nitrogen found in human and animal wastes and under certain conditions can become toxic to aquatic organisms.
 - L. Without oxygen
 - M. With oxygen
 - N. Area of a lake lacking light penetration and photosynthesis
5. Delineate or outline the stream drainage of the Trimball River. Start at the mouth of the river that is identified on the map. (1 point)
6. Define a wetland and list four functional values or benefits of wetlands. (2 points)
7. Match all the organisms to the appropriate category of the aquatic food chain. Organisms may belong to more than one category and a category may have more than one organism. (3 points)

| <u>Category</u> | <u>Organism</u> |
|---------------------|--------------------------|
| Primary Consumers | A. Zooplankton |
| Secondary Consumers | B. Fish |
| Primary Producers | C. Phytoplankton |
| | D. Aquatic invertebrates |
| | E. Aquatic Plants |

8. A large development of approximately 80 acres is being constructed next to a Class I trout stream. The site is a mix of level and sloping terrain with shrubs, trees, grasses and wetlands. The wetlands are located in the flood plain adjacent to the stream. Describe actions you would take to protect the stream from construction runoff during a large rain event. Specifically, what types of Best Management Practices would you implement and why? (2 points)
9. Identify the following equipment and devices used to evaluate water quality conditions in surface water. (1 point)