

## CT Envirothon Aquatics Exam 2007

Print the name of your Team/School on the line in the upper right hand corner of this page and **each** additional page. For each of the questions in this exam you will either circle the correct answer or fill in the blank space(s) provided. All specimen identifications are within the first third of the exam and you are allowed to use the provided keys to ID each organism. Each question is worth 3 points except for 34, which is worth only one. **GOOD LUCK!!!**

Use the “Key to Salt Water Invertebrates” to identify the following organisms

- 1) What species is the invertebrate labeled #1?
  - a) Libinia emarginata
  - b) Carcinus maenas
  - c) Limulus polyphemus
  - d) **Cancer irroratus**
- 2) What species of invertebrate is labeled #2?
  - a) **Argopecten irradians**
  - b) Nucella lapillus
  - c) Crepidula fornicata
  - d) Tridacna gigas
- 3) What species of invertebrate is labeled #3?
  - a) Mercenaria mercenaria
  - b) **Crassostrea virginica**
  - c) Rongway hoicecay
  - d) Mya arenaria

Use the “Key to Fresh Water Fishes” to identify the following organisms

- 4) What is the species of fish in tray #4?
  - a) Pomoxis nigromaculatus
  - b) Esox Niger
  - c) **Anguilla rostrata**
  - d) Ictalurus punctatus
- 5) What is the species of fish in tray #5?
  - a) **Catostomu commersoni**
  - b) Ameiurus nebulosus
  - c) Salmo salar
  - d) Perca flavescens

Use the “Key to Salt Water and Anadromous Fishes” for the following organisms

- 6) What is the fish species in tray #6?
  - a) Pleuronectes americanus
  - b) Trinectes maculates
  - c) Scophthalmus aquosus
  - d) **Paralichthys dentatus**



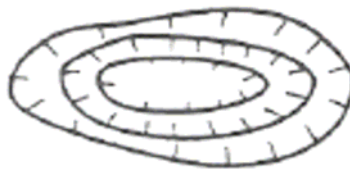


- 22) “What Happens to Water” describes a formula for the water cycle on page 5. In the formula precipitation is equal to what?  
a) rain + snow + garden hoses + fish tanks  
**b) surface runoff + ground water recharge + evapotranspiration + storage**  
c) storage + surface runoff + human consumption + rain  
d) evapotranspiration + 3.141592654 + ground water recharge + rain
- 23) A \_\_\_\_\_ refers to a basin of land which catches rain or snow and directs it down slope to a point in a river or stream – an outlet point. (“What happens to water” pg.8)  
**a) watershed**                      b) storage closet                      c) funnel                      d) stream bank
- 24) List 3 of the 4 MAJOR sources of pathogens in waterways, according to “Clean Waters: Starting in your Home and Yard” (Clean Water Fact Sheet pg.2)  
a) \_\_\_\_\_                      b) \_\_\_\_\_                      c) \_\_\_\_\_  
**(failing septic systems, leaky sewer lines, pet wastes, farm waste or runoff)**
- 25) The alewife floater glochidia only parasitize what species of fish in Connecticut? (Freshwater mussel guide pg. 1)  
a) *Salmo salar*    b) *Lepomis gibbosus*    c) *Dorosoma cepedianum*    **d) *Alosa pseudoharengus***
- 26) An eft is defined as \_\_\_\_\_ (pg. 5 Salamander Terminology)  
a) a poorly spelled elf                      b) a bright pink version of a spotted salamander  
c) opposite of right                      **d) the terrestrial phase of a predominantly aquatic newt**
- 27) Name the Four Functional Feeding Groups of Freshwater Benthic Invertebrates (River Watch Document pg.12)  
a) \_\_\_\_\_                      b) \_\_\_\_\_  
c) \_\_\_\_\_                      d) \_\_\_\_\_  
**(predator, collector, shredder, scraper) collector gather or collector filter is acceptable for ONE of the four spots**
- 28) Which of the following statements is true? (River Watch doc pg. 10)  
**a) cold water can hold more oxygen than warm water**  
b) high alkalinity rivers are subject to rapid fluctuations in pH  
c) decomposition increases dissolved oxygen values  
d) pH scale ranges from 7-15

- 29) Streams interact with ground water in three basic ways, which are: \_\_\_\_\_ (USGS excerpt pg. 2)
- a) erode the substrate, carry nutrients, provide habitat
  - b) gain water from inflow, lose water through out flow, and both at different reaches**
  - c) increase water table during floods, decrease water table during drought, and neutralize acidity
  - d) filter bacteria contaminants, increase buffering ability, and lose water through outflow

- 30) If this image were found on a topographic map what sort of land feature would it represent? (Using Maps pg. 2)

- a) a mountain
- b) a lake
- c) a wetland
- d) a depression**



- 31) The three stages of The Snowmelt Sequence are: (Stormwater Center article 3 pg.1)

- a) \_\_\_\_\_ b) \_\_\_\_\_ c) \_\_\_\_\_  
**(pavement melt, roadside melt, pervious area melt)**

- 32) List the following items from smallest to largest in terms of typical land area: (Stormwater Center article 28 pg. 1) (basin, catchment, subwatershed, subbasin, watershed)

- a) \_\_\_\_\_ b) \_\_\_\_\_ c) \_\_\_\_\_ d) \_\_\_\_\_ e) \_\_\_\_\_  
**catchment, subwatershed, watershed, subbasin, basin**

- 33) Which organism is NOT an obligate species in vernal pools? (Wicked Big Puddles pg. 5)

- a) wood frog
- b) mole salamanders
- c) fairy shrimp
- d) jumbo shrimp**

- 34) Dihydrogen Monoxide is more commonly known as? \_\_\_\_\_ (1 point only)  
**(water, H<sub>2</sub>O, or any other permutation of water is fine)**