

CT ENVIROTHON AQUATICS EXAM 2004

Print the name of your team/school on the line in the top right hand corner of this page. For each of the questions in this exam you will need to circle the appropriate letter or fill in the blank space. All specimen identifications will be at the beginning of the exam and you will be allowed to utilize the appropriate keys for each organism. Each question will be worth 3 points except for number 34, which is worth only one point. GOOD LUCK!

For question one you may use the “Field Guide to Freshwater Mussels of CT”.

- 1) What species of mussel are you currently examining?
 - a) Yellow Lampmussel (*Lampsilis cariosa*)
 - b) Zebra Mussel *Dreissena polymorpha*
 - c) **Eastern Elliptio *Elliptio complanata***
 - d) Eastern Pondmussel *Ligumia nasuta*

For the following 3 questions use “An Identification Key to the Most Common Benthic Macroinvertebrates in CT Streams”

- 2) What is the identification of the benthic macroinvertebrate in vial #2?
 - a) **Hydropsychidae**
 - b) Heptageniidae
 - c) Corydalidae
 - d) Oligochaeta
- 3) What is the identification of the benthic macroinvertebrate in vial #3?
 - a) Baetidae
 - b) Oligoneuriidae
 - c) Isopoda
 - d) **Perlidae**
- 4) What is the identification of the benthic macroinvertebrate in vial #4?
 - a) Aeshnidae
 - b) Gomphidae
 - c) Cordulegastridae
 - d) **Calopterygidae**

For the next 4 questions please use “the abbreviated key to Saltwater Invertebrates”

- 5) This edible bivalve relies on eelgrass for habitat:
 - a) ***Argopecten irradians***
 - b) *Mya arenaria*
 - c) *Crepidula fornicata*
 - d) *Crassostrea virginica*

- 6) This gastropod is often found washed up on shore in stacks:
- a. *Urosalpinx cineria*
 - b. *Euspira heros*
 - c. *Limulus poyphemus*
 - d. ***Crepidula fornicata***
- 7) This crustacean is a favorite food of lobsters:
- a. ***Cancer irroratus***
 - b. *Callinectes sapidus*
 - c. *Cancer borealis*
 - e. *Busycon carica*
- 8) This snail invaded the north eastern U.S. with the colonizing Europeans
- a. *Urosalpinx cineria*
 - b. ***Littorea littorina***
 - c. *Carcinus maenus*
 - d. *Nucella lapillus*

For the next 2 questions you may use the “abbreviated Key to Saltwater Fishes”

- 9) What is the fish specimen labeled #9?
- a) American Shad
 - b) Alewife
 - c) **Winter flounder**
 - d) Blueback herring
- 10) What is the fish specimen labeled #10?
- a) **summer flounder**
 - b) hogchoker
 - c) striped bass
 - d) weakfish

For the next two questions you may use the “Abbreviated Key to Freshwater Fishes”

- 11) What is the fish specimen labeled #11?
- a) American eel
 - b) **Atlantic salmon**
 - c) Smallmouth bass
 - d) White sucker

12) What is the fish specimen labeled # 12?

- a) channel catfish
- b) blackcrappie
- c) **chain pickerel**
- d) yellow perch

The final specimen Identification does not use a key but if you read through all of your materials you should be familiar with this plant.

13) What is this Aquatic Invasive plant species?

- a) Phragmites australis
- b) Lythrum Salicaria
- c) **Trapa natans**
- c) Iris pseudacorus

14) What role do mussels play in natural ecosystems? (Field Guide to Freshwater Mussels pg 1)

- a) Provide food for other species
- b) filter nutrients out of the water
- c) control lobster populations
- d) **both a and b**

15) What species of mussel is thought to be extinct in CT? (field Guide to freshwater mussels of CT pg 2)

- a) Zebra mussel (*Dreissen polymorpha*)
- b) **Yellow lampmussel (*Lampsilis cariosa*)**
- c) Eastern Lampmussel (*lampsilis radiata radiata*)
- d) Creeper (*Strophius undulates*)

16) Name 3 ways eurasian water milfoil (*myriophyllum spicatum*) is spread: (Understanding Invasive Aquatic Weeds pg 11)

- a. _____ **boats** _____
- b. _____ **trailers**
- c. _____ **birds**

17) Name 3 problems caused by invasive aquatic weeds: (Understanding Invasive Aquatic Weeds pg 2)

- a. _____
- b. _____
- c. _____

Any of these are right: destroy habitat, block navigation and flood control, stop recreation, reduce property values and tourism, clog drinking and irrigation pipes)

18) *Trapa natans* is the following type of plant: (IPANE handout pg 2)

- a. herbaceous perennial
- b. biennial
- c. woody shrub
- d. **annual**

19) Name 3 ways plant enthusiasts spread invasive aquatic plants: (Invasive Aquatic Plants pg 1)

- a. _____
- b. _____
- c. _____

Any of the following are correct

- (a) sharing specimens of invasive plants**
- (b) disposing of plants in natural waterways**
- (c) moving plants to warmer climates from cold climates where they do not survive the winters, and**
- (d) Smuggling invasives into the country illegally**

20) Which of the following is not a problem caused by Invasive Aquatic Weeds:

(Understanding Invasive Aquatic weeds pg 2)

- a) reduce tourism and property values
- b) destroy fish and wildlife habitat
- c) **less tasty on salads**
- d) block navigation and flood control of waterways

21) Which method of control is not utilized in successfully managing purple

loosestrife?(Understanding Invasive Aquatic Weeds pg 9)

- a) integrated pest management using beetles
- b) herbicides
- c) hand pulling
- d) **mowing**

22) According to the Red Cross, what should be used to treat jellyfish stings?

(Jellyfish found in Long Island Sound)

- a) rubbing alcohol
- b) honey
- c) **a tablespoon of vinegar in water**
- d) ice

- 23) What type of sea animal thinks that jellyfish are a delicious treat? (“jellyfish found in Long Island Sound)
- a) **sea turtles**
 - b) sand tiger shark
 - c) pelican
 - d) lobster
- 24) The approximate number of finfish found in Long Island Sound is (“Ecological System of LIS):
- a) 10-15
 - b) < 50
 - c) >120
 - d) 350
- 25) Examples of benthic fish in Long Island Sound include (Living Treasures... pp. 32-36):
- a. little skate
 - b. menhaden
 - c. winter flounder
 - d. a and c**
- 26) Hypoxia in Long Island Sound is attributed to (Living Treasures... p. 34)
- a. excess nutrients entering the Sound
 - b. decomposition of algae
 - c. contaminated water sinking to the bottom
 - d. a and b**
- 27) The drainage basin of what River comprises over 70% of the entire Long Island Sound watershed (Living Treasures... p.1):
- a. Quinnipiac
 - b. Connecticut**
 - c. Housatonic
 - d. Hudson
- 28) The parameters considered to determine a lake’s trophic category according to the Connecticut Water Quality Standards are:
- a. Total phosphorus, total nitrogen, Chlorophyll *a* & Chlorophyll *b*
 - b. Total phosphorus, total organic carbon, total nitrogen & Secchi disk transparency
 - c. Total phosphorus, total nitrogen, Secchi disk transparency & Chlorophyll *a***
 - d. none of the above
- 29) Which of the following is not an example of a freshwater benthic macroinvertebrate? (Benthic Macroinvertebrates pg 1)
- a) mollusk
 - b) crustaceans
 - c) insects
 - d) **fish**

- 30) What order of aquatic insects is considered to be the least tolerant of water pollution? (Benthic Macroinvertebrates pg 1)
- a) ephemeroptera
 - b) **plecoptera**
 - c) odonata
 - d) Isopoda
- 31) Which type of surface runoff usually has the largest volumes and highest velocity? (What happens to Water? pg 17)
- a) **channelized flow**
 - b) sheet flow
 - c) low-flow
 - d) geyser
- 32) Which of the following will have the highest infiltration rate during a rain event? (What Happens to Water pg 11)
- a) concrete
 - b) **coarse-textured soils**
 - c) clay soils
 - d) fine-textured soils
- 33) According to “Canaries of the Stream” EPT (Ephemeroptera, Plecoptera, Trichoptera) values can tell biologists a lot about the pollution levels in a stream. Which range is indicated as showing a severely impacted stream?
- a) 6-10
 - b) 2-5
 - c) 11-20
 - d) **0-1**
- 34) When do most vernal pools fill with water? _____ **SPRING** _____
(Wicked Big Puddles pg.1)