

Envirothon . 2017
4. 26. '17

2017 Aquatics Exam

TEAM: _____

Score total: _____ /80

Fill in the blank... 8 points (2 each)

1. Ocean acidification is a(n) _____ in pH, caused by absorption of _____.

2. Oysters make their shells out of _____.

3. The _____ is the official state fish of Washington.

4. Most of Earth's oxygen is produced by _____.

5. What causes eutrophication in the Hood Canal? 4 points

- a. Excess nitrogen
- b. Minimal water circulation
- c. Sunlight
- d. All of the above

6. Which of these are invasive aquatic species in Washington? Circle all that apply... 2 points

- a. European Green Crab
- b. Atlantic Salmon
- c. Coastal cut throat trout
- d. Pygmy whitefish

7. What kind of estuary is the Salish Sea? 5 points

- a. A coastal plain estuary caused by rising sea levels after the last ice age.
- b. A tectonic estuary created where land subsided.
- c. A bar-built estuary formed by sand bars that built up along the coastline.
- d. A fjord estuary cut deep by glaciers

8. Which of the following rivers does NOT empty into Puget Sound? 2 points

- a. Skagit River
- b. Columbia River
- c. Chehalis River
- d. Dungeness River

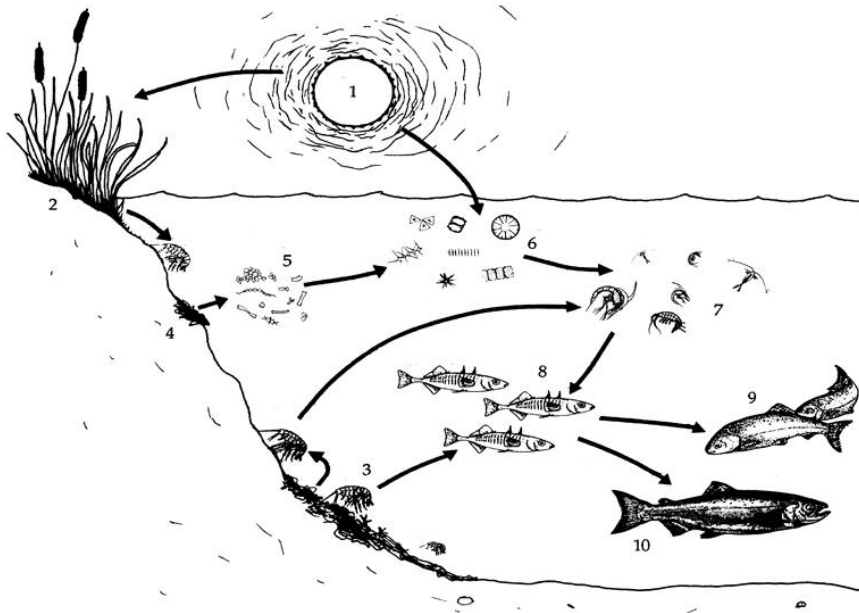
9. About how much water does an oyster filter daily? 4 points
- a. 40 gallons
 - b. 10 gallons
 - c. 100 gallons
 - d. 3 gallons
 - e. Less than a gallon

10. Match the terms to their definitions... 14 points (2 each)

a.		Marsh	1	Sites occurring along flowing water courses, the water course itself, and the surrounding terrain and vegetation. Subject to flooding and sedimentation processes.
b.		Bog	2	A wetland dominated by woody plants.
c.		Fen	3	Water or soil with a pH greater than 7.4. Relatively high concentration of available base cations.
d.		Swamp	4	A wetland that has soft-stemmed plants adapted to grow in saturated soil conditions.
e.		Anaerobic	5	A peat moss wetland that gets most of its water from precipitation.
f.		Alkaline	6	Occurring in conditions devoid of oxygen.
g.		Fluvial	7	A peat moss wetland that receives water and nutrients from runoff or groundwater.

True or False

11. Excessive pumping of a well can reverse the natural flow of groundwater into a river, causing the water level to fall in the river. _____ 6 points (1 each)
12. Surface water runoff is an example of nonpoint source pollution. _____
13. 100% of chum salmon that hatch in Kennedy Creek return to spawn _____
14. Salmon can use the Earth's magnetic field to navigate back to their home streams _____
15. There are just as many species of Atlantic Salmon as there are Pacific Salmon _____
16. Draining salt marshes leads to a reduction in mosquito populations _____



6 points (2 each)

Estuary Food Web. (1) Sun; (2) Cattails; (3) Amphipods; (4) Detritus; (5) Bacteria; (6) Plant Plankton; (7) Animal Plankton; (8) Stickleback; (9) Immature Chinook; (10) Adult Chinook.

17.

a. Look at the estuary food web above and give one example of a primary consumer.

b. Give one example of a secondary consumer.

c. Give one example of a tertiary consumer.

18. Match the terms with their definitions...

12 points (2 each)

a.	Floodplain	1	Any vegetation that offers protection and shading for the stream and its aquatic inhabitants.
b.	Riparian zone	2	Sections of the stream with a relatively low velocity that flow gently and smoothly with little or no turbulence at the surface of the water.
c.	Runs/Glides	3	The zone of the stream cross section that is usually submerged and totally aquatic.
d.	Streamside cover	4	The low area of land that surrounds a stream and holds the overflow of water during a flood.
e.	Channel	5	The area of natural vegetation extending outward from the edge of the stream bank.
f.	Riffles	6	Shallow, turbulent, but swiftly flowing stretches of water that flow over partially or totally submerged rocks.

19. Use the water quality testing kits on the bench to complete a dissolved oxygen test for sample A and sample B.

You should be performing these tests simultaneously to make sure you can complete the activity in time.

Results: Sample A-_____

5 points

Sample B-_____

a. By analyzing your data, determine which sample is most likely taken from the Nisqually River? Why?_____

6 points

b. By analyzing your data, which sample is most likely taken from the wetlands? Why?_____

6 points