**Aquatic Ecosystems** (p. 181 – 191)

**I. Describing Aquatic Ecosystems**

**1. Define the term salinity.**

Salinity –

**2. What are the typical salinity levels of the following :**

1. Salt Water : \_\_\_\_\_\_\_\_\_\_\_\_ ppt

2. Fresh Water : \_\_\_\_\_\_\_\_\_\_\_\_ ppt

3. Brackish Water : \_\_\_\_\_\_\_\_\_\_\_\_ ppt

**3. What happens to saltwater fish in freshwater and freshwater fish in salt water?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. Match each aquatic zone with the correct definition.**

1. \_\_\_\_\_ Photic Zone A. Bottom of a body of water; Could be sunlit or dark

2. \_\_\_\_\_ Aphotic Zone B. Zone with no sunlight or photosynthesis occurring

3. \_\_\_\_\_ Benthic Zone C. Site of photosynthesis; Can extend down 200 meters

**5. Most animals live in photic zones due to photosynthesis, dissolved oxygen, & warmth.**

Circle One : True False

**II. Freshwater Ecosystems**

**1.** **Determine whether the statement is true or false. If false, then correct the statement to**

**make it true. (X = True; O = False)**

1. \_\_\_\_\_ Ponds are smaller and lakes are larger.

2. \_\_\_\_\_ The Great Lakes are an example of an inland sea, due to their large sizes.

3. \_\_\_\_\_ All lakes and ponds are full of nutrients.

4. \_\_\_\_\_ The littoral zone is shallow, near the shore, and possess rooted plants.

5. \_\_\_\_\_ Very few invertebrates live in the limnetic zone, which is far from the shore.

**2. Define the term wetlands.**

Wetlands –

**3. List 5 reasons why wetlands are important ecosystems.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4.** **Determine whether the statement is true or false. If false, then correct the statement to**

**make it true. (X = True; O = False)**

1. \_\_\_\_\_ Freshwater marshes are mainly dominated by woody plants.

2. \_\_\_\_\_ Freshwater swamps consist of grass-like plants only.

3. \_\_\_\_\_ Bogs are characterized by floating mats of organic matter.

4. \_\_\_\_\_ Primary succession is common among bogs.

5. \_\_\_\_\_ Fens are similar to bogs, but possess a groundwater source of water.

**5. Match each river term with the correct definition.**

1. \_\_\_\_\_ Flood Plain A. All land area drained by a river and tributaries

2. \_\_\_\_\_ Meander B. The result of the shifting of a river that cuts off water

3. \_\_\_\_\_ Oxbow Lake C. A small river system flowing into a larger river

4. \_\_\_\_\_ Source D. Area near a river that is low-lying & commonly flooded

5. \_\_\_\_\_ Tributary E. Wide, curvy path of a mature river

6. \_\_\_\_\_ Watershed F. Site of fast-moving, highly oxygenated river water

**III. Estuaries**

**1. Define the term estuaries.**

Estuaries –

**2. Organisms living in estuaries tolerate a wide range of salinity & temperature conditions.**

Circle One : True False

**3. Estuaries trap very few nutrients and are considered to be relatively unproductive.**

Circle One : True False

**4. List 2 characteristics of a saltwater marsh & where one is located in the United States.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Location : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5. List 2 characteristics of a mangrove swamp & where one is located in the United States.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Location : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6. List two reasons why estuaries are important ecosystems.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IV. The Oceans**

**1. List the five oceans of the world.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2. What percentage of the Earth is covered by ocean water?** \_\_\_\_\_\_\_\_\_%

**3. Warmer water sinks in oceans, whereas colder water rises.**

Circle One : True False

**4. Water with higher salinity sinks, whereas water with less salinity rises.**

Circle One : True False

**5. What major ocean current flows from the Gulf Of Mexico to the north Atlantic Ocean?**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6. Define the term upwelling.**

Upwelling –

**7. List the zones of the ocean (based on vertical and horizontal stratification).**

**Vertical** **Horizontal**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8.** **Determine whether the statement is true or false. If false, then correct the statement to**

**make it true. (X = True; O = False)**

1. \_\_\_\_\_ Two high tides & two low tides occur each day in an intertidal zone.

2. \_\_\_\_\_ Organisms do not have to deal with extreme conditions in intertidal zones.

3. \_\_\_\_\_ Intertidal rocky shorelines possess organisms that attach themselves to rocks.

4. \_\_\_\_\_ Intertidal sandy shorelines have more biodiversity than rocky shorelines.

**9.** **Determine whether the statement is true or false. If false, then correct the statement to**

**make it true. (X = True; O = False)**

1. \_\_\_\_\_ Neritic zones extend from the low tide mark to the edge of the continental shelf.

2. \_\_\_\_\_ The neritic zone is sunlit, because it only extends 66 meters downward.

3. \_\_\_\_\_ Kelp forests in neritic zones supply shelter & food for other organisms.

4. \_\_\_\_\_ Kelp forests are extremely productive due to kelp growing up to 200 meters tall.

**10.** **Determine whether the statement is true or false. If false, then correct the statement to**

**make it true. (X = True; O = False)**

1. \_\_\_\_\_ Corals in coral reefs are composed of calcium carbonate.

2. \_\_\_\_\_ Corals are evolutionarily unrelated to jellyfish and sea anemones.

3. \_\_\_\_\_ Corals symbiotically exist with algae known as *zooxanthellae*.

4. \_\_\_\_\_ Coral bleaching is caused by pollutants & decreased surface water temperatures.

**11.** **Determine whether the statement is true or false. If false, then correct the statement to**

**make it true. (X = True; O = False)**

1. \_\_\_\_\_ The open ocean ecosystem is highly productive.

2. \_\_\_\_\_ Phytoplankton & zooplankton are the base for open ocean food webs.

3. \_\_\_\_\_ Bioluminescence is uncommon in the aphotic zone of the open ocean.

4. \_\_\_\_\_ Photosynthesis does not occur in the open ocean benthic zone, so no life exists.

5. \_\_\_\_\_ Life in the benthic zone of the open ocean revolves around hydrothermal vents.