**APES Chapter 8: Aquatic Biodiversity**

**Note Taking Focus Questions**

**Directions:** Use the Cornell Method of note taking as you answer the questions below. Your notes must be **hand written** to receive credit for them. Within your notes, use the title for each subsection of notes which is *in italics and underlined.*

**Core Case Study: Why should we care about coral reefs?**

1. What ecosystem and economic services do coral reefs preform?

2. What is happening to coral reefs around the world, and how extensive is the problem?

3. Why are coral reefs vulnerable to damage?

**Section 8-1**

*Earth: The Water Planet*

1. What % of the earth’s surface is covered with salt water? freshwater?

2. What determines the distribution of organisms?

3. What are the two major aquatic life zones and list some examples?

*Aquatic Species, Drift, Swim, and Cling*

1. List and describe the 3 types of plankton, how they move, and their roles in the food chain.

2. Describe how the nekton move and list some examples.

3. Where are benthos organisms found? What are the types – based upon their habitat/niche?

*What determines the types and numbers of organisms?*

1. List the 5 factors that determine species diversity and populations.

2. Discuss where nutrients would be found in abundance and how that impacts NPP.

3. Discuss what two factors impact the availability of sunlight.

**Section 8-2**

*Why are marine aquatic systems important?*

1. Use figure 8-5 on p. 170 to list the ecosystem services and economic services provided by marine ecosystems.

*Three Marine Life Zones*

1. List the 3 ocean life zones.

2. Describe the properties of the coastal life zone including what takes place there. List the types of ecosystems it would include.

3. Define what is considered to be “open sea”. Discuss the NPP of the open sea.

4. List and describe the 3 vertical zones of the open sea.

**Section 8-3**

*How Have Human Activities Affected Marine Ecosystems?*

1. List the major threats to marine systems from human activities which are bulleted in the first column of p. 176.

2. Read over figure 8-12 and list any major human impacts from that figure.

3. *Chesapeake Bay:* Read over the Chesapeake Bay case study on p. 177 and 178. Summarize how humans are impacting the bay, what it has done to the organisms that live there, what efforts are being made to clean up the bay, and how successful those efforts have been.

 **(over)**

**Section 8-4**

*Why are freshwater ecosystems important?*

1. List the ecosystem services and economic services listed in figure 8-14 on p. 178.

2. Define what a lake is, and what can cause the depressions that lakes form in.

3. List and describe the 4 zones found in deep lakes. Be sure to mention the organisms that would be found in each.

*Nutrient Levels in Lakes*

1. List and describe the 3 classes of lakes based upon nutrient levels. Be sure to include organisms if they are listed and NPP.

2. What is cultural eutrophication?

*Freshwater Streams and Rivers*

1. List and describe the 3 aquatic life zones in rivers as they flow from the mountain to the sea. Include the organisms found in each.

2. What is a delta?

*River Deltas and Coastal Wetlands*

1. Describe how river deltas and coastal wetlands help to protect the mainland.

2. What human activities are threatening the deltas and coastal wetlands?

3. What is happening to the deltas and coastal wetlands as a result of the activities you just listed?

*Inland Wetlands*

1. What are inland wetlands, and what types of areas are considered inland wetlands?

2. Why are wetlands productive?

3. What ecosystem and economic services do wetlands provide? (Use the bulleted list on p. 182.)

**Section 8-5**

*Human Activities Impact Freshwater Ecosystems*

1. List and describe the four ways that humans impact freshwater ecosystems.