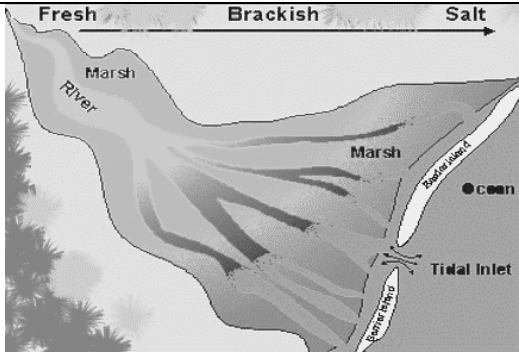


Earth/Environmental Science Homework

Week 4: February 9th – 12th
DUE DATE: Thursday, February 12th

Vocabulary: Fill in the missing areas on the table below using your textbook, class activities and any other resources you find helpful.

Vocabulary Word	Definition	Example/Application/Diagram
Land Subsidence	Sinking of the land	A consequence of aquifer depletion
Wetland	Places where there is shallow water or very soggy soil at least part of the time	Marshes, Swamps
Estuary (Review Word)	The area where freshwater from rivers meets salt water from oceans. Influenced by tides.	
Brackish	Contains more salts than fresh water, but less salt than ocean water	
Thermal Pollution	When an activity causes the temperature of the water to change	<ul style="list-style-type: none"> -Change from lower to higher temperatures when water is used to cool power plants <i>or</i> -Change from higher to lower temperatures when cooler water at the base of a dam is released <i>or</i> -Cutting down trees along rivers and streams reduces shade and the water warms <i>or</i> -Soil erosion particles in the stream due to erosion absorb sunlight increasing water temperatures
pH scale	<p>Helps determine the health of water</p> <p>Ranges from 0-14</p> <p>pH of less than 7 is acidic, greater than 7 is basic, equal to 7 is neutral</p>	Most natural lakes and rivers in the US have a pH of 6.5-8.5.

Oxygen (In Water)	Dissolved Oxygen: Organisms that live in the water need oxygen to live, just like organisms that live on land.		Low Levels of Oxygen	High Level of Oxygen
		Warm Water	✓	
		Cold Water		✓
		Fast-Flowing Water		✓
		Slow-Flowing Water	✓	
		Large Amount of Bacteria	✓	
		Algae during the day		✓
		Algae during the night	✓	
Nitrates & Phosphates	Form of nitrogen/phosphorus, needed for plant growth. Too much makes water unhealthy.	Found in fertilizers, animal waste and sewage		
Turbidity	Measure of water clarity. Caused by soil erosion, algae blooms, pollution, bottom feeding organisms.	High Turbidity = dark water = unsafe Low Turbidity = clear water = safer		
Invertebrates	Animals without backbones	Used in the biotic index card		
Point Source Pollution	Any single identifiable source of pollution from which pollutants are discharged	pipe, ditch, ship or factory		
Nonpoint Source Pollution	Where there is no single point of pollution	Runoff from rainfall or snowmelt that picks up contaminants on route to water sources		

Key Questions from the Week: Answer the questions below pertaining to this week.

1. Explain aquifer depletion and its three main consequences.

Aquifer depletion is a consistently low level of groundwater.

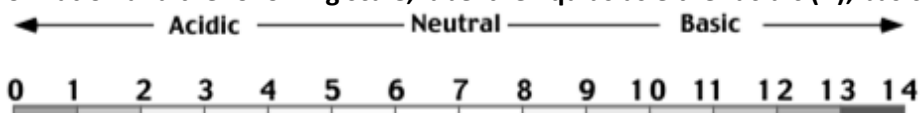
Consequences:

- (1) lowers water table: dries up wells and increases costs to get water
- (2) land subsidence: the ground sinks
- (3) saltwater intrusion: the water supply gets contaminated

2. Describe the major causes and results for wetland and estuary degradation (decrease, make worse).

Causes:	Results:
<ol style="list-style-type: none"> 1. Building Threats 2. Invasive Species 3. Pollution 	<ol style="list-style-type: none"> 1. Habitat loss 2. Loss of species 3. Poor water quality 4. Reduced water storage

Problem from the Week: Different organisms can live at different pH ranges, but all fish die if the pH is below 4 or above 12. Using pH information and the following scale, label the liquids as either acidic (A), basic (B), or neutral (N).



 A Orange Juice

 B Glass Cleaner

 A Lemon Juice

 A Soda

 A Coffee

N or A Coffee Creamer

 A or N Water (Tap)

 A Soap

 B Washing Detergent

 A or N Rain