Name_____

CASE

Presentation Notes

Presentation _____ Lesson 4.3

Notes from Presentation:

Source and Purpose

- Indicators of water quality vary based on the water source & purpose
- Lakes and streams
  - Aquatic life, monitored by USGS, based on Water Quality Index (WQI)
- Drinking Water
  - Human health & safety, monitored by EPA & local agencies, & based on drinking water standards

Quality Indicators

- Temperature, pH, turbidity, total solids, dissolved oxygen, biochemical oxygen demand, phosphates, nitrate, fecal coliform, ammonium, alkalinity, total dissolved solids, calcium hardness, total hardness, chloride/ sanity, & stream flow

Temperature

- Cooler stream water is typically considered healthier
- Factors affecting water temperature
  - Air temperature, amount of shade, soil erosion that increases turbidity, thermal pollution form human activity, confluence of streams
- Effects of water temperature
  - Solubility of dissolved oxygen, rate of plant growth, metabolic rate of organisms, resistance in organisms

pH

- Range of 6.5- 8.2 is optimal for most organisms
- Factors affecting pH levels: acidic rainfall, algal blooms, hard-water minerals, releases from industrial processes, acids produced in decomposition & respiration

Turbidity- A measure of water clarity

- Causes of turbidity: soil erosion, urban runoff, industrial waste, organic materials, & bottom-dwelling fish
- Effects of turbidity: reduced water clarity, unattractive, decrease photosynthesis, & increase temperature

Dissolved Oxygen (DO)

- Necessary for respiration of aquatic life
- Factors affecting DO levels: temperature, aquatic plant populations, decaying organic material, stream flow, altitude/ atmosphere pressure, & human activities
- Sources of DO: diffusion from atmosphere, aeration as water moves over rocks & debris, aeration from wind and waves

Total Dissolved Solids (TDS): Measures ability of dissolved salts to conduct a current

- Sources of TDS: fertilizer & urban runoff, salinity, acid rain, & hard-water or limestone minerals
- Effects of high TDS: dehydration of animals, mineral taste, & change pH

AFNR Reflection Page

List five key points that are important to remember from this presentation.

1. Cooler stream is healthier
2. pH range of 6.5 to 8.2 is good for organisms
3. Diffusion from atmosphere is a source of dissolved oxygen
4. Fertilizer runoff is a source of total dissolved solids
5. Dehydration of animals is an effect of high total dissolved solids

List three ideas or concepts that this new information has in common with previous things learned.

1. pH
2. Temperature is a quality indicator
3. Cooler stream is healthier

List questions or ideas that remain unclear about the information presented that should be asked for clarity at the appropriate time.

None