

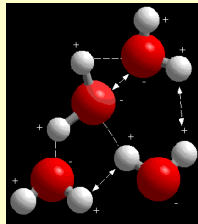
Aquatic Ecology

- ❑ Characteristics of water
- ❑ Water cycle
- ❑ Limnology
- ❑ Organisms
- ❑ Stratification
- ❑ Nutrients
- ❑ Food webs



❑ Characteristics of Water

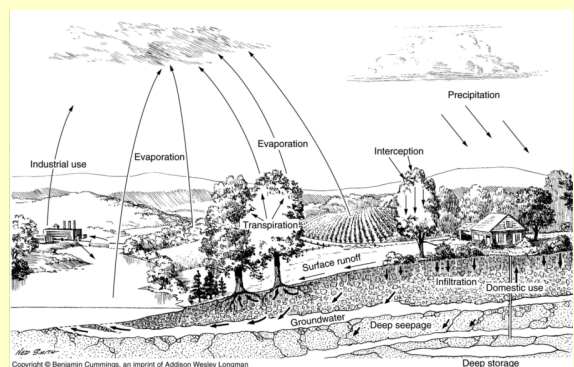
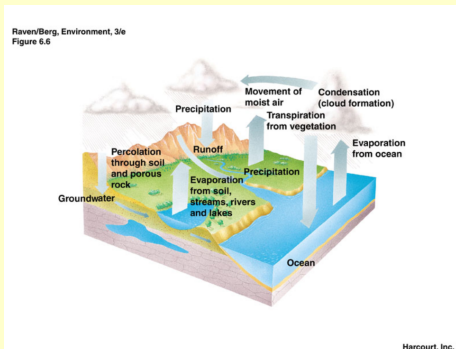
- H_2O covalently bonded
- Polar nature of water
- Hydrogen bonds
- Lattice arrangement
- Surface tension
- Capillary action

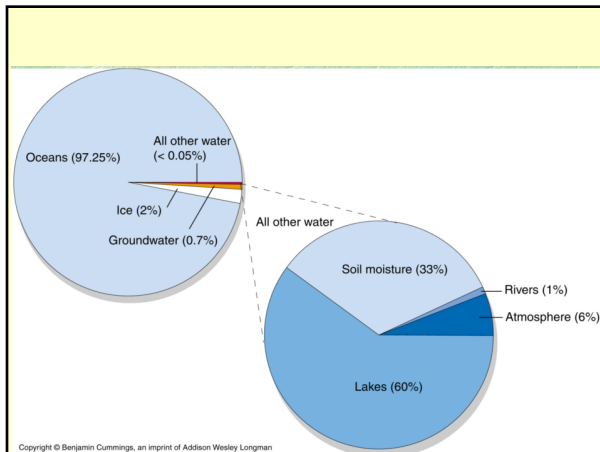


Characteristics of Water



Water cycles



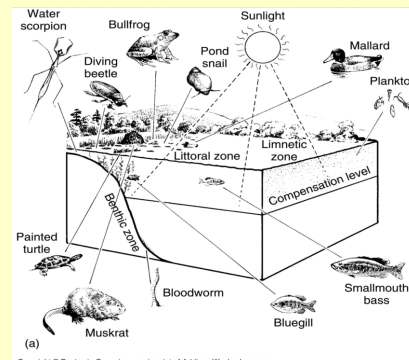


Limnology

- – study of freshwater ecosystems
 - Lotic systems – running water habitats
 - Lentic systems- standing water habitats
 - lakes and ponds



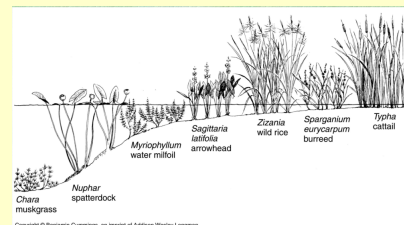
Organisms



Organisms

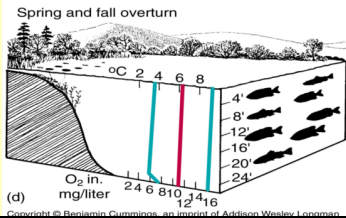
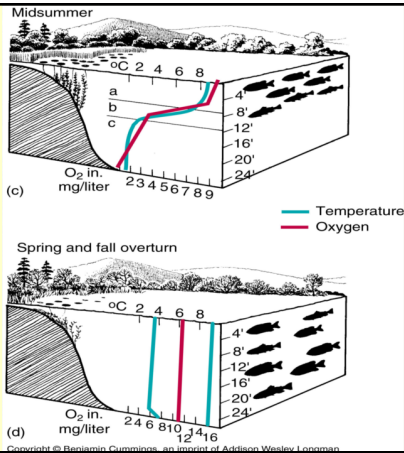
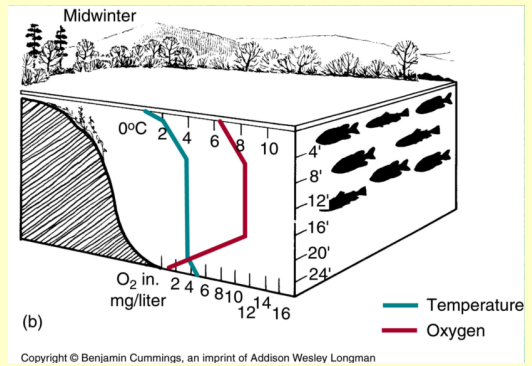
- Primary producers- phytoplankton, macrophytes
- Primary consumers- zooplankton
- Secondary consumers- fish
- Decomposers- insects, variety of other invertebrates, bacteria

Rooted macrophytes

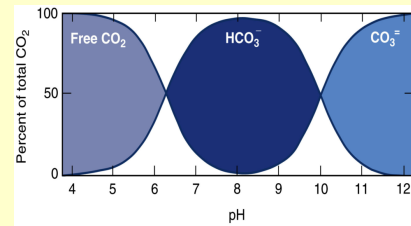


Thermal stratification

- Epilimnion
- Thermocline
- Hypolimnion

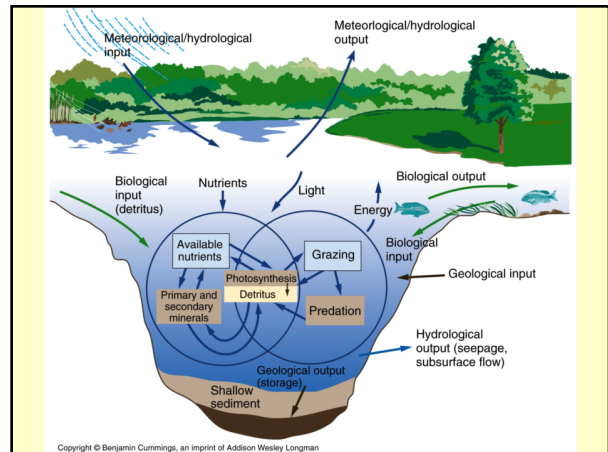


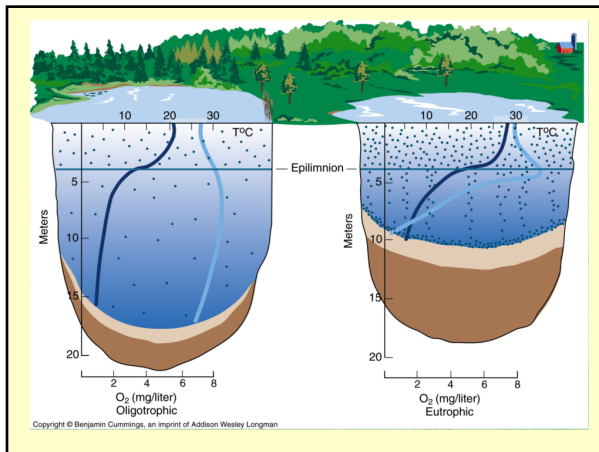
Acidity, Alkalinity & Buffering



Nutrients

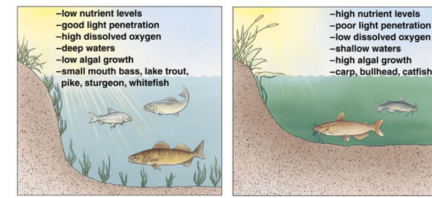
- ❑ Sources
 - Geology of the Watershed
 - Inflow streams and groundwater
- ❑ Sinks
 - Outflow
 - Burial
- ❑ Forms
 - Dissolved
 - Organically bound





Sedimentation and turbidity and nutrient enrichment

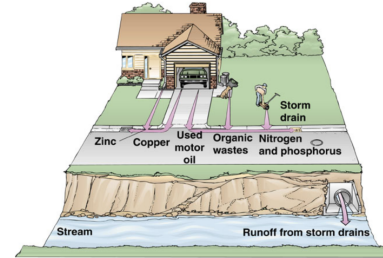
Raven/Berg, Environment, 3/e
Figure 21.8



Harcourt, Inc.

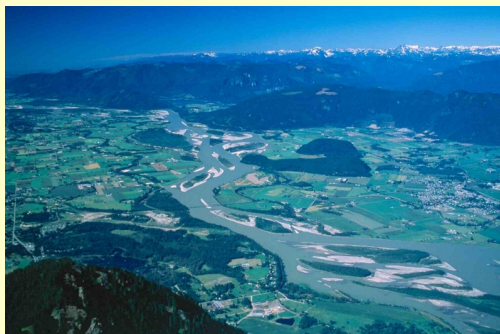


Raven/Berg, Environment, 3/e
Figure 21.8

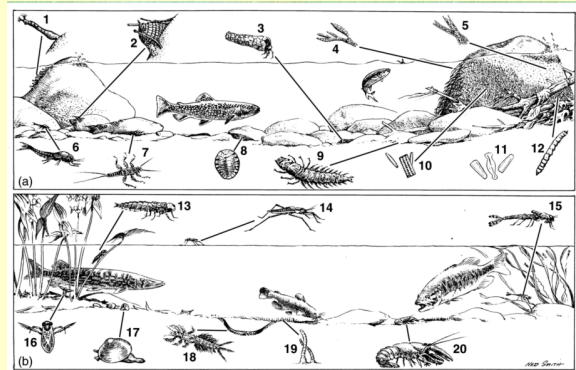


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Stream Biome



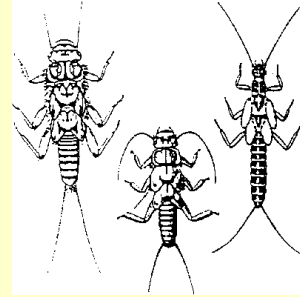
a. fast-moving stream community
b. slow-moving stream community



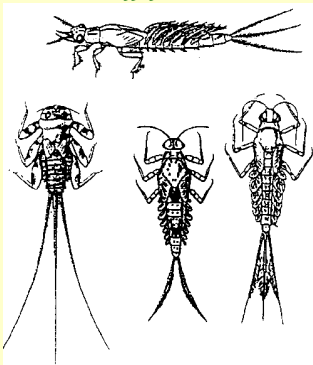
Crustaceans



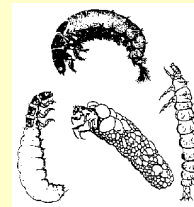
Plecoptera - stonefly larvae



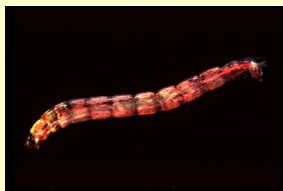
Mayfly larvae



Caddisfly larvae



Chironomids



Oligochaetes

