

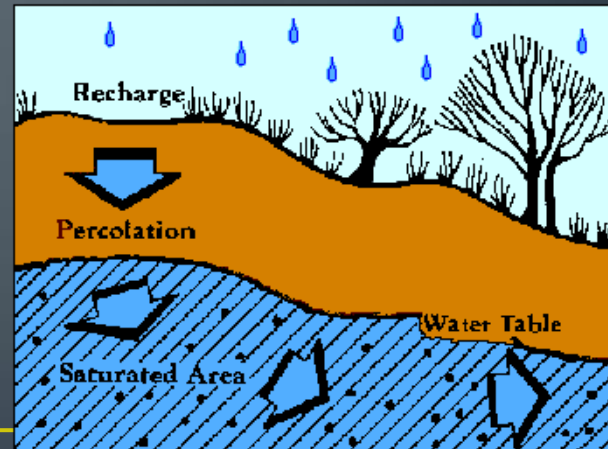
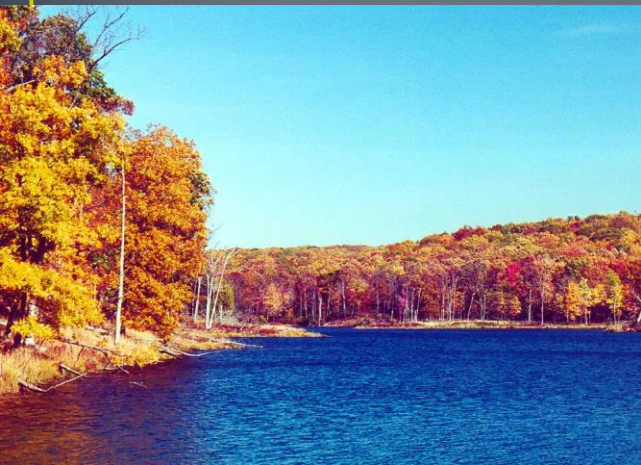
Watersheds and Wetlands

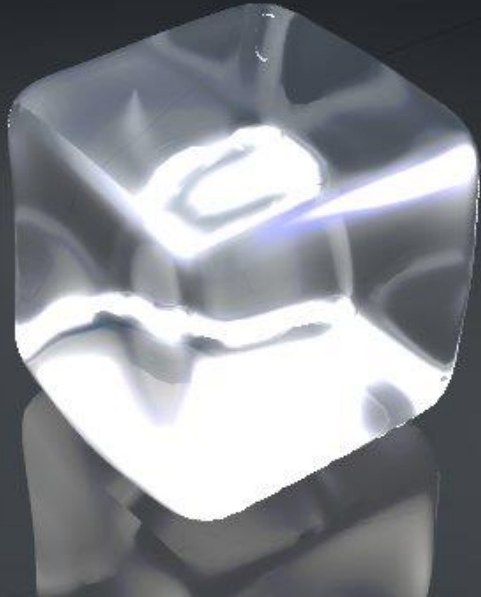


The Blue Planet

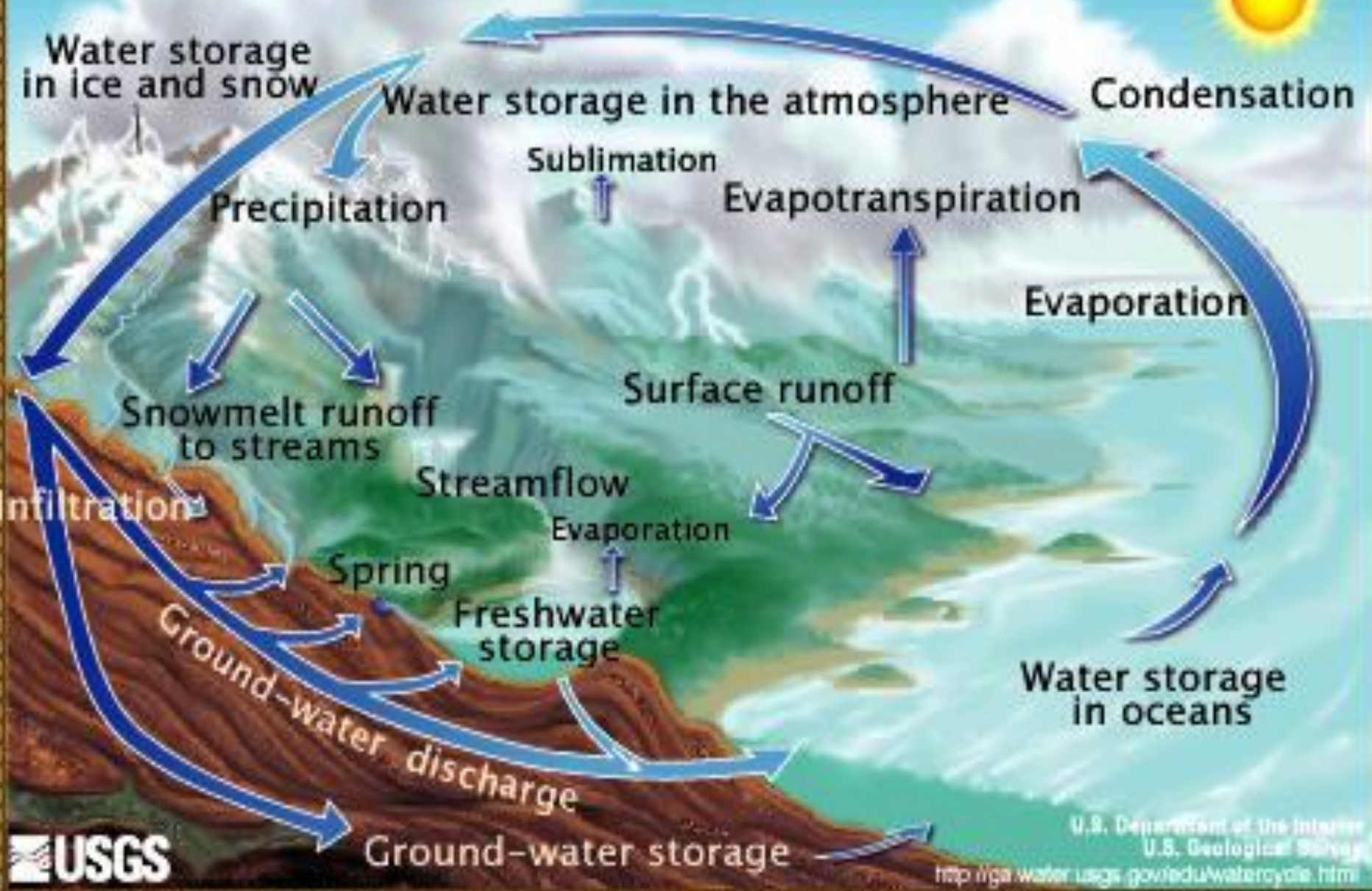
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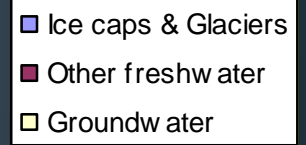
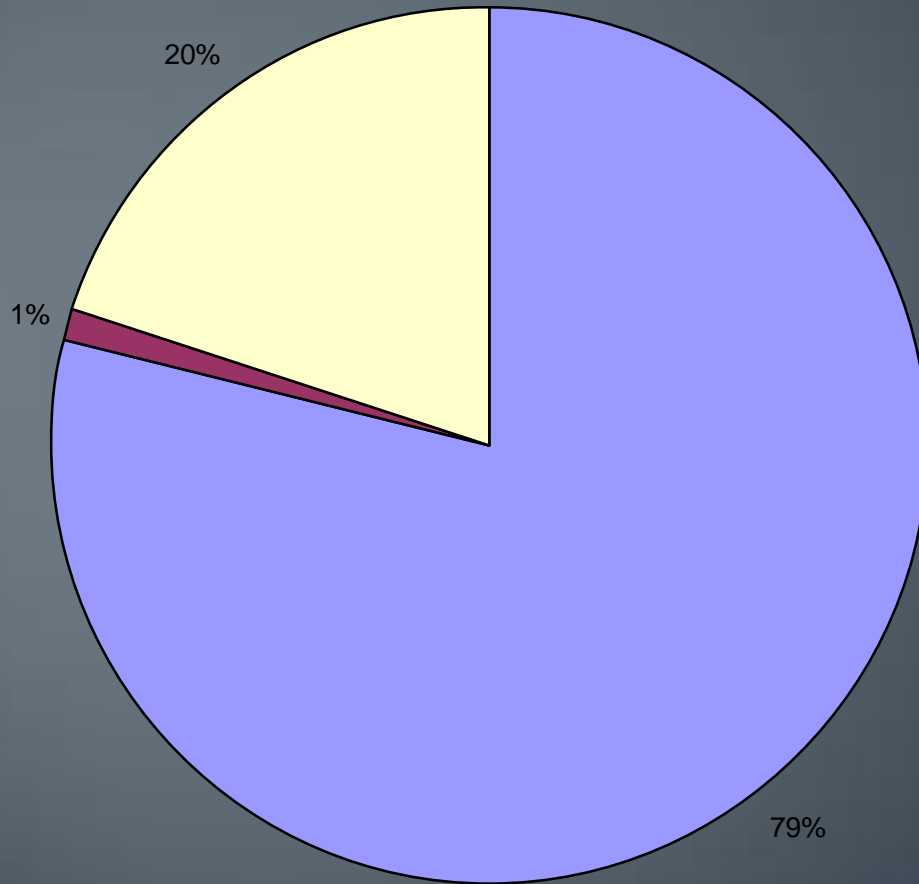
The Water Cycle



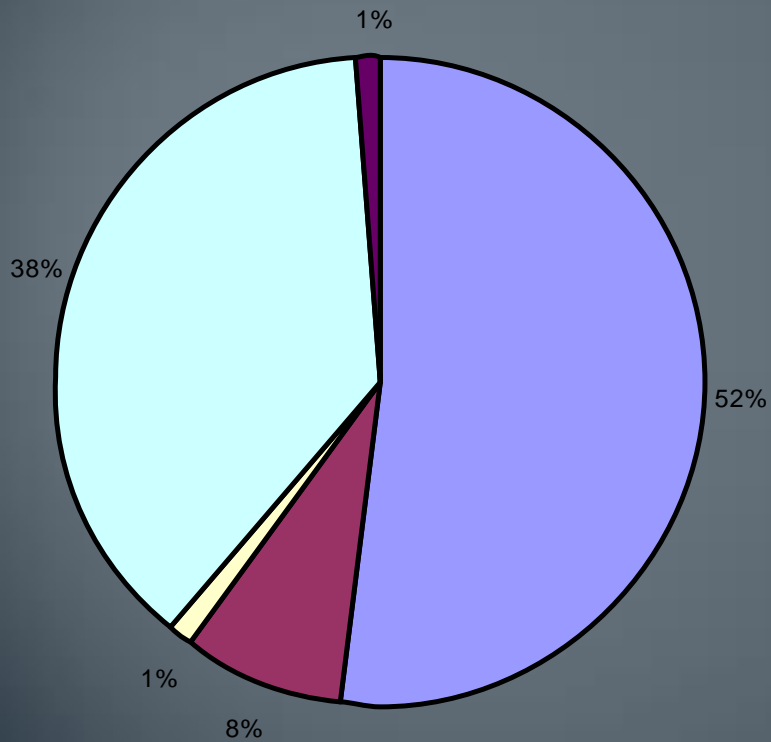
The relationship among landforms, vegetation and the amount and speed of water.

- Analyze a stream's physical characteristics.
- Describe how topography influences streams.
- Explain the influence of mountains on precipitation.
- Explain how vegetation affects storm water runoff.
- Delineate the boundaries of a watershed.
- Describe factors that affect the quality of groundwater.
- Explain how the speed of water and vegetation cover relates to erosion.

Freshwater



Other Fresh Water



■ Lakes

■ Atmospheric water

■ Water within living organisms

■ Soil moisture

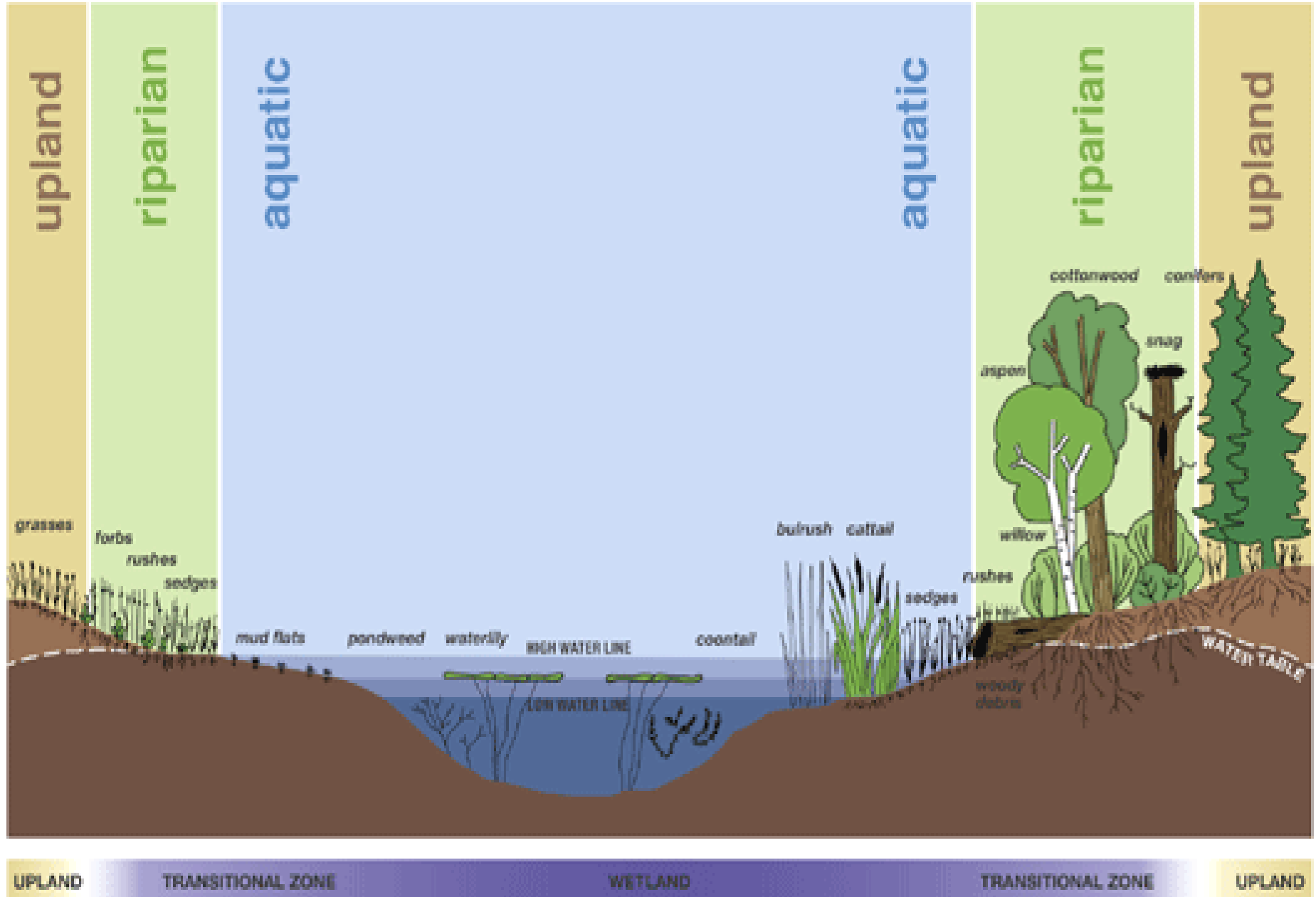
■ Rivers

What does this Define?

- An area that has both wet areas and dry areas. The wet areas are relatively shallow.



A Typical Wetland







Yes. I do know places to hide a body

























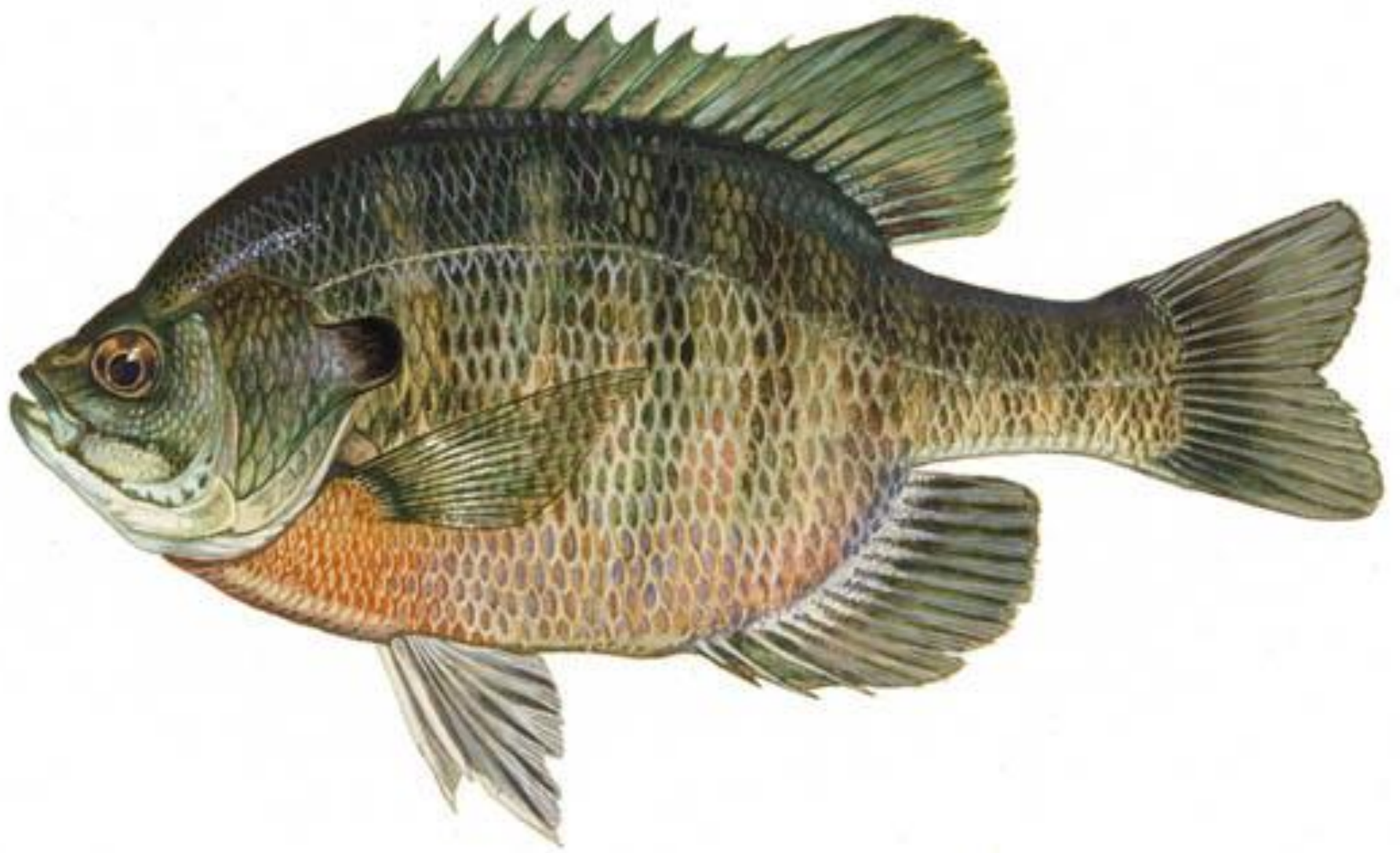






(Richardson's) Cackling Goose
Lido Beach, Nassau Co., NY
7 Jan 2005 Photo: Angus Wilson





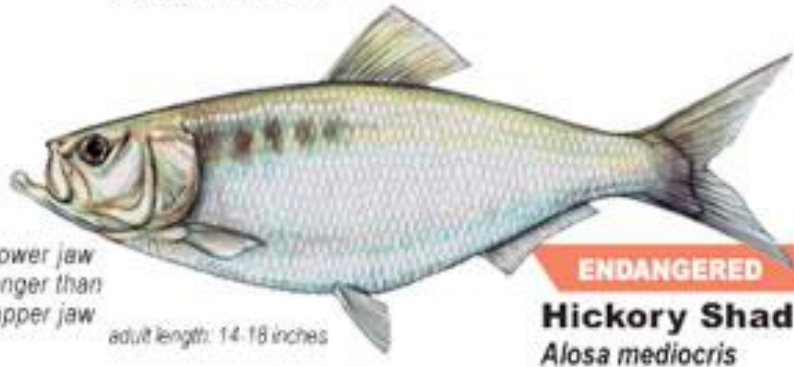
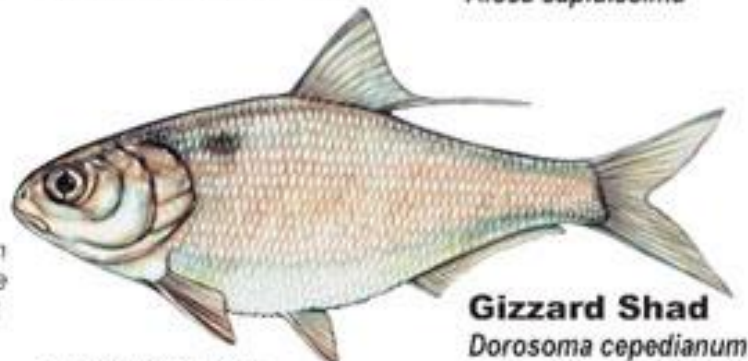
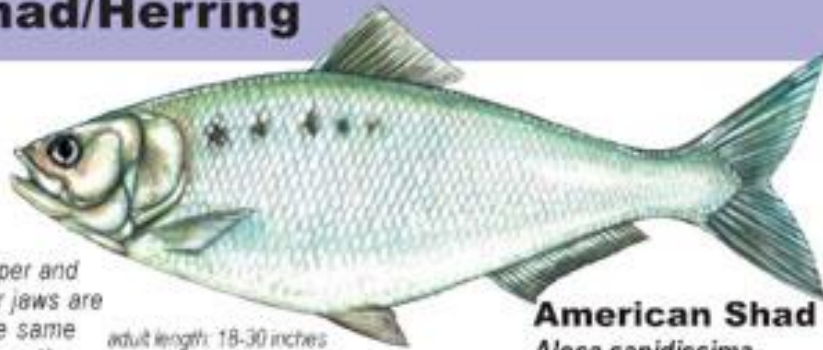








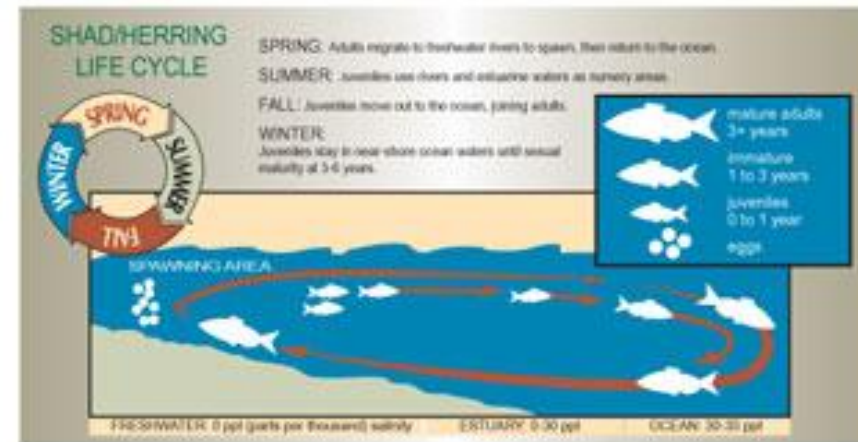
Shad/Herring



Identification



Herring are anadromous. They live in salt water as adults and return to fresh water to spawn. They spend the early part of their lives in fresh water before migrating to salt water. They are "school fish" and can occur in large numbers. Herring have no lateral line and the tail is deeply forked. They have sharp, saw-toothed scales called "scutes," which are located on the midbelly.





Gizzard Shad (9 - 14 inches)



Threadfin Shad (1 - 5 inches)

Threadfin shad are usually easily distinguished from the gizzard shad by the fact that the upper jaw does not project beyond the lower jaw















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Photo by A. Murray
Ocheesee Pond









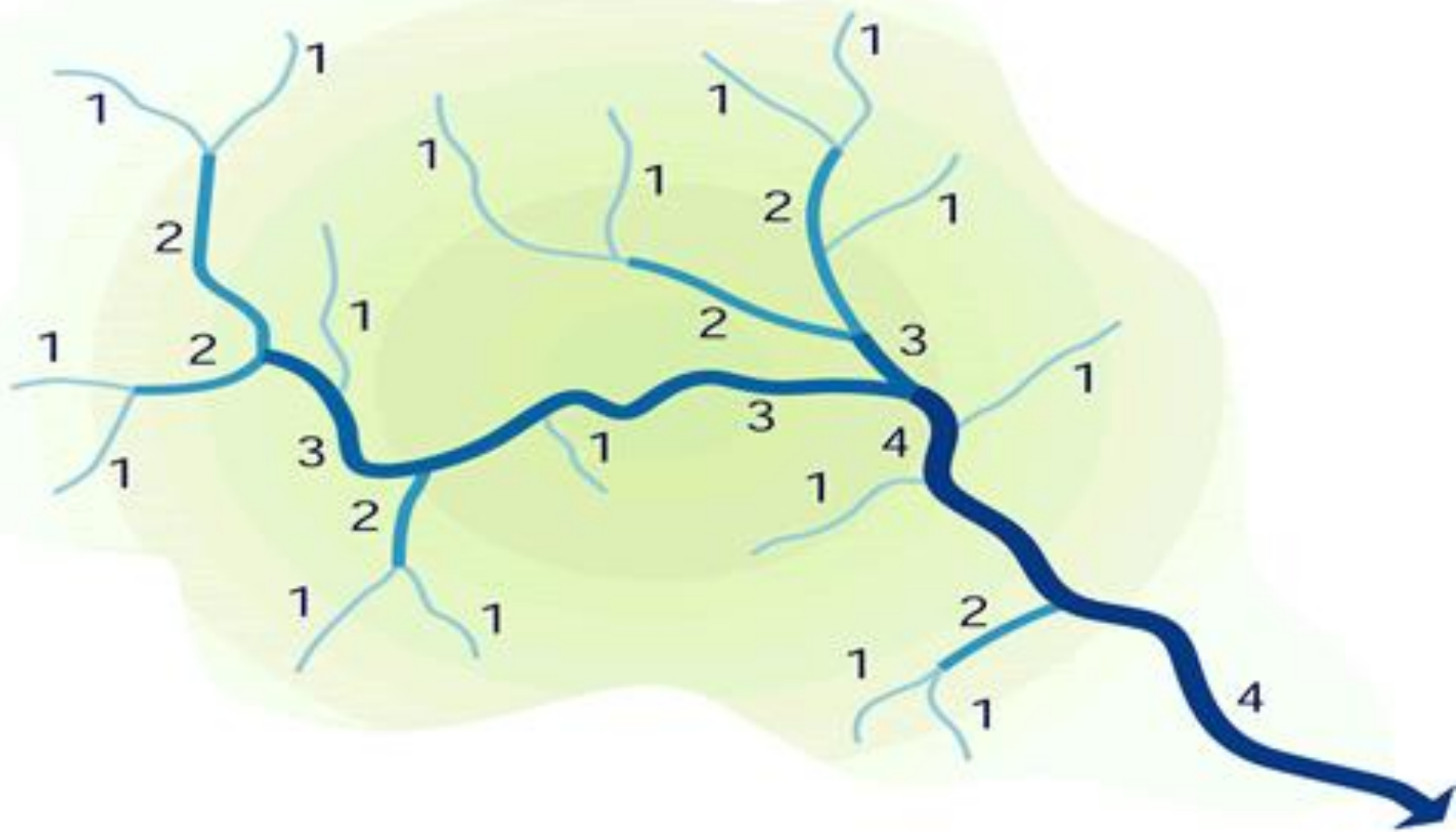


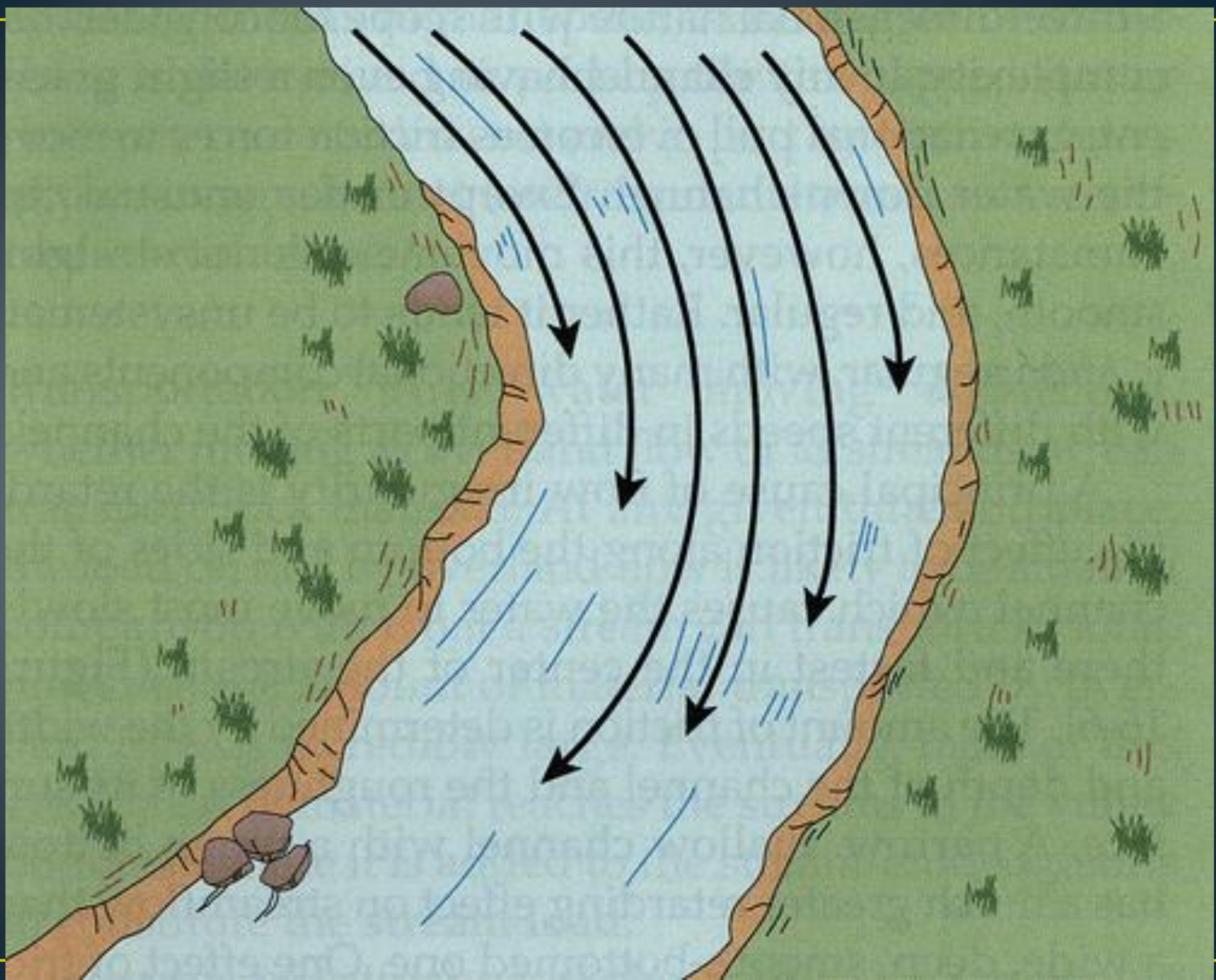




- What are some major threats to our wetlands?









Questions

- What is stream reactivity?
- Why determines stream reactivity?
- What is limiting stream reactivity important?

DELTS

- Fish anomalies – deformed, fin erosion, lesions, tumors











- What is point source pollution?
- What is non-point source pollution?
- What is the result of nutrient pollution?
 - What are the categories of nutrient pollution?







Wetlands

- Describe wetlands in terms of their effects
- Explain how a wetland influences water quality, wildlife and water retention.

Groundwater

- 22% of freshwater is groundwater
- Accessed through wells
- In Pennsylvania 1,000,000,000 gallons of groundwater are used each day
 - Used by households, agriculture and mining
- Contaminants
 - Natural; dissolved minerals
 - Human activities; septic tanks, pesticides and fertilizers, landfills, chemical spills, underground storage tanks, salts on icy roads, mining

- Recent studies show groundwater quality in Pennsylvania is good.
 - A recent decrease in nitrates may be a result of better maintenance of septic systems and changes in agricultural practices
 - Increases in some contaminants in some parts of the state have been attributed to a rise in road salting and urban development.