

Stream Ecology and Instream Flows

Definition:

- 1) A Stream (=River=Creek="Crick"=Brook) is a narrow area of land where water and other materials flow.
- 2) Stream ecology is the study of how the living components of a stream interact with the non-living components and each other.
- 3) Instream flow refers to the amount of water in the stream at any time.



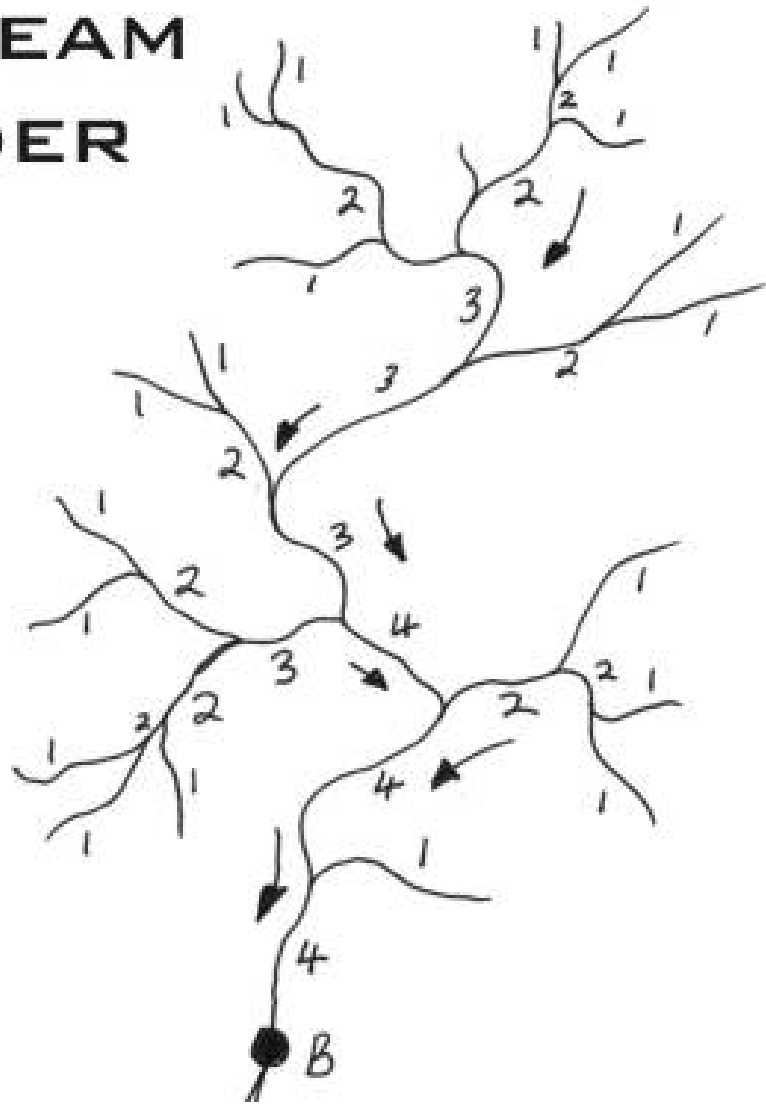
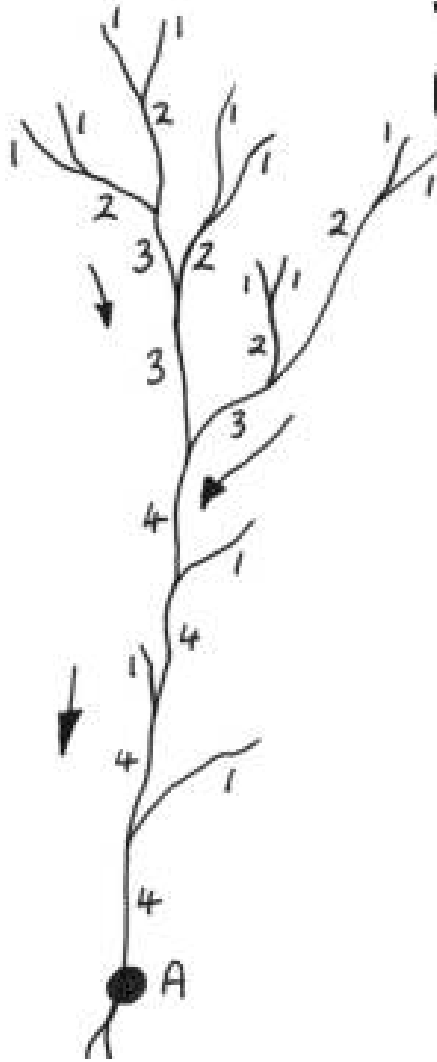
Physical Properties of streams

- Gradient
- Temperature
- Salinity
- pH

Stream Transport Dimensions

- Longitudinal
- Vertical
- Lateral
- Temporal

STREAM ORDER



RIFFLE

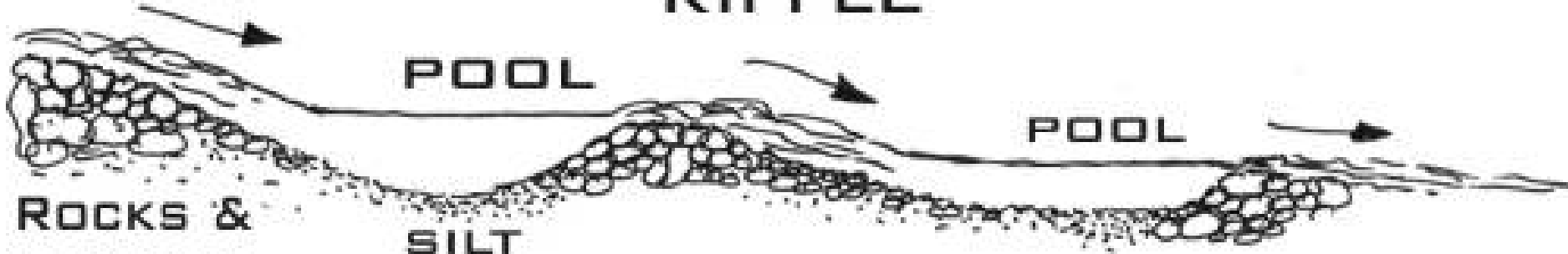
RIFFLE

POOL

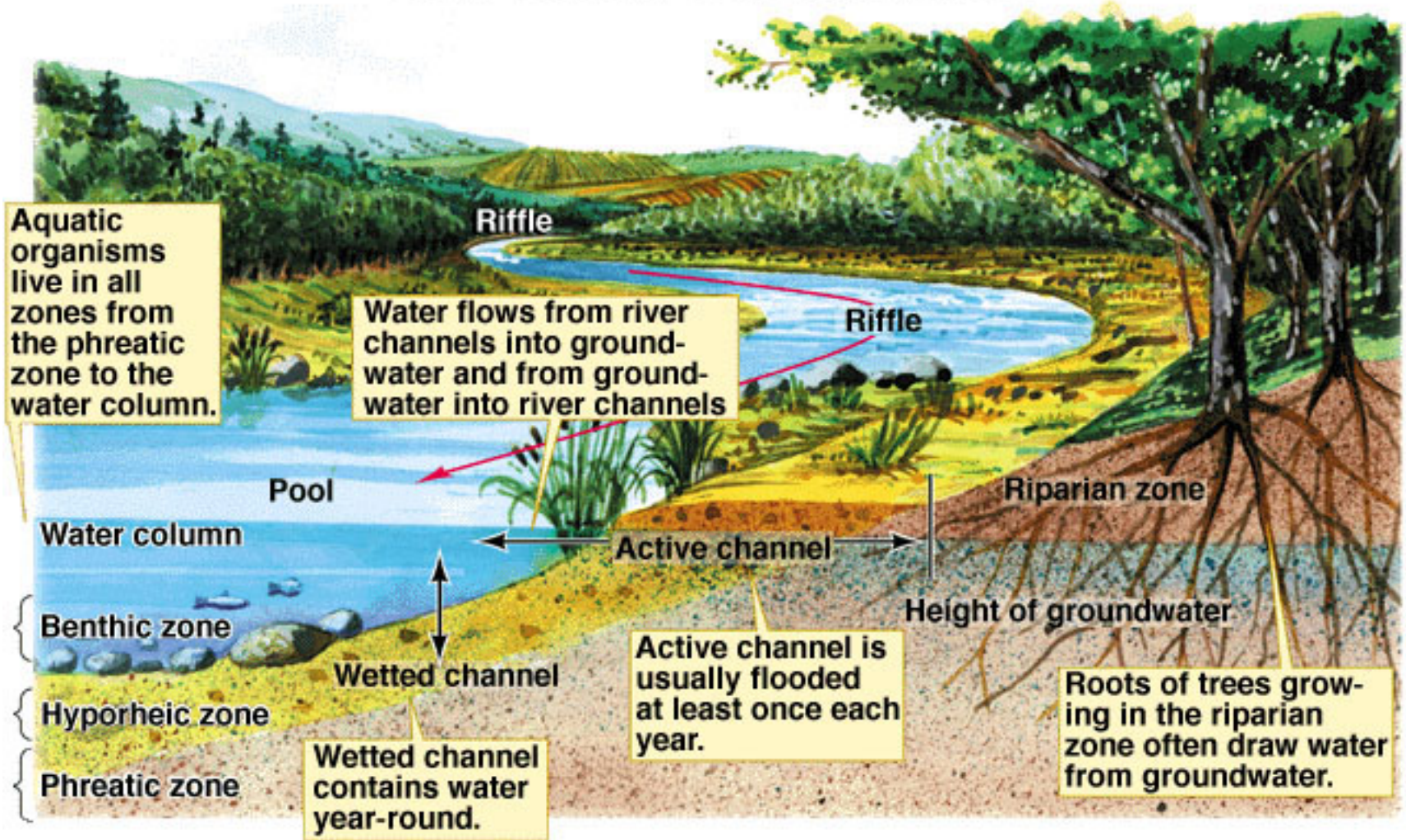
POOL

**ROCKS &
PEBBLES**

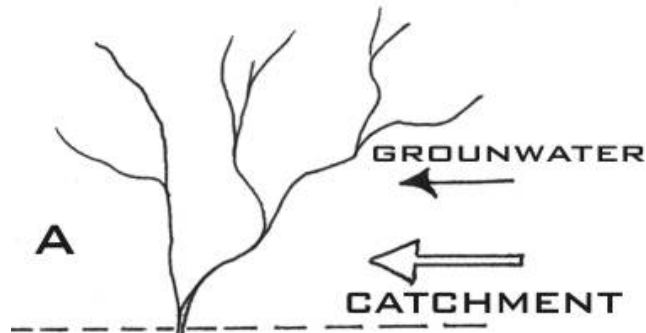
SILT



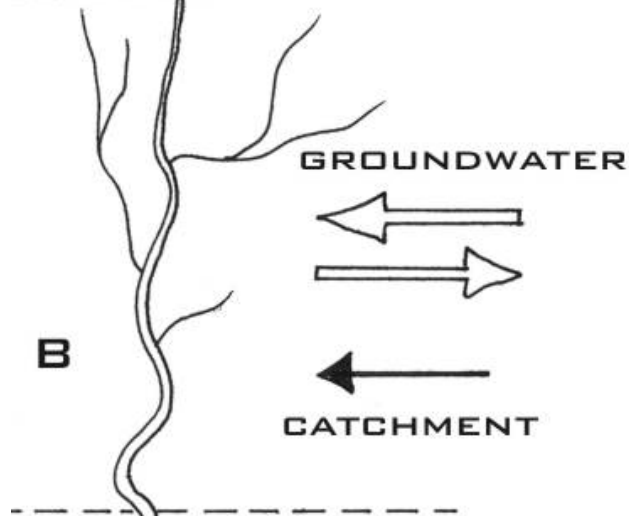
Stream Structure



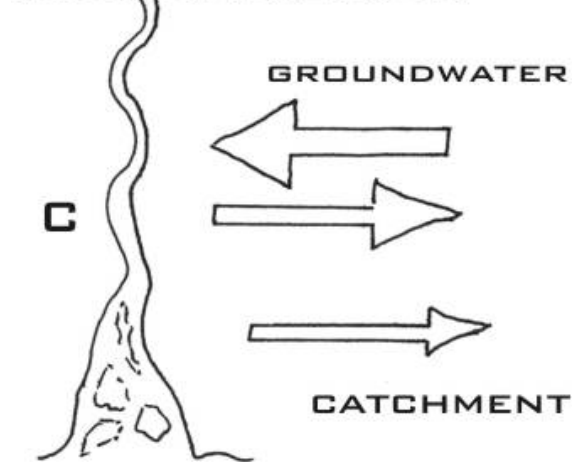
Erosion zone



Transition zone



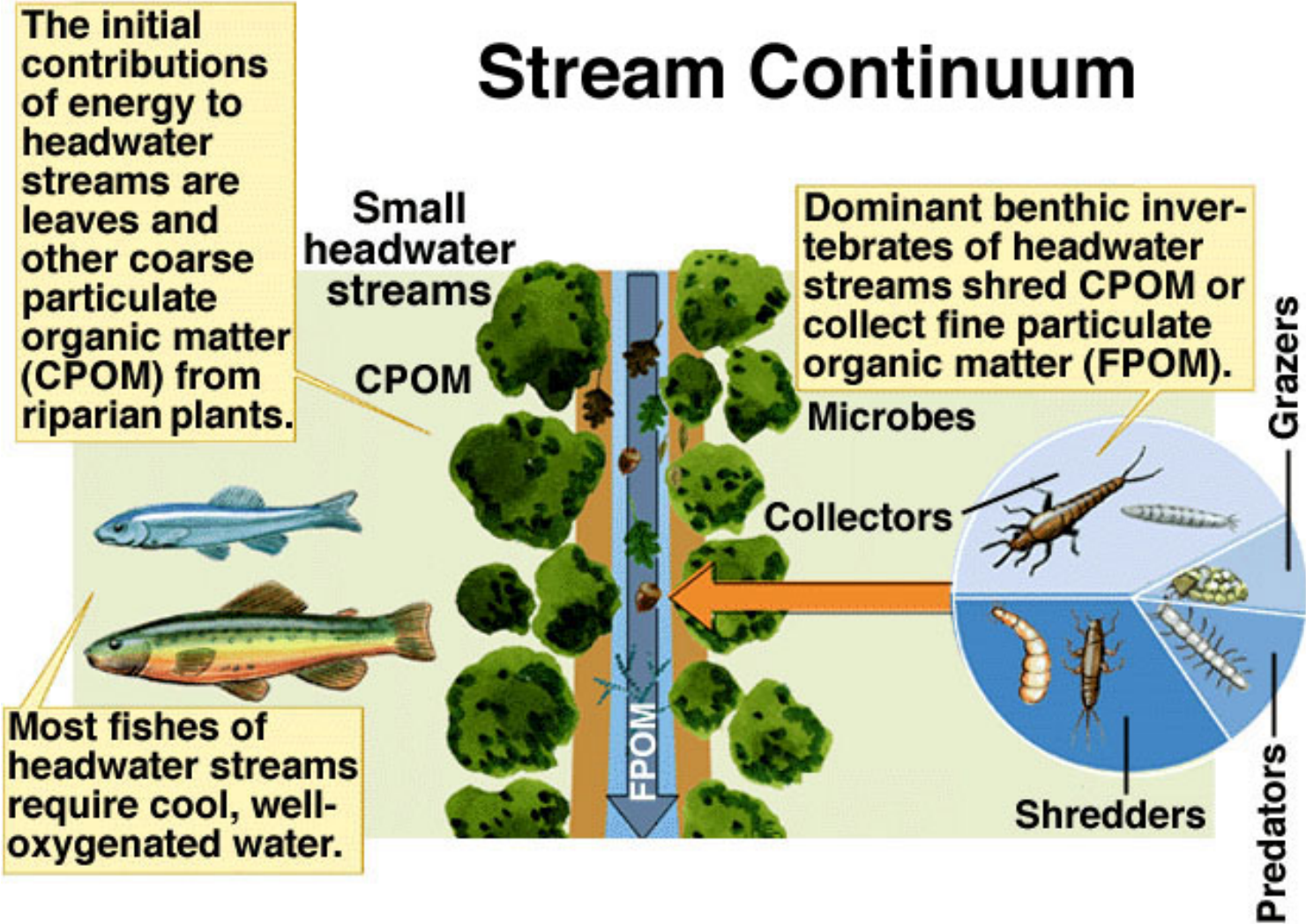
Depositional zone



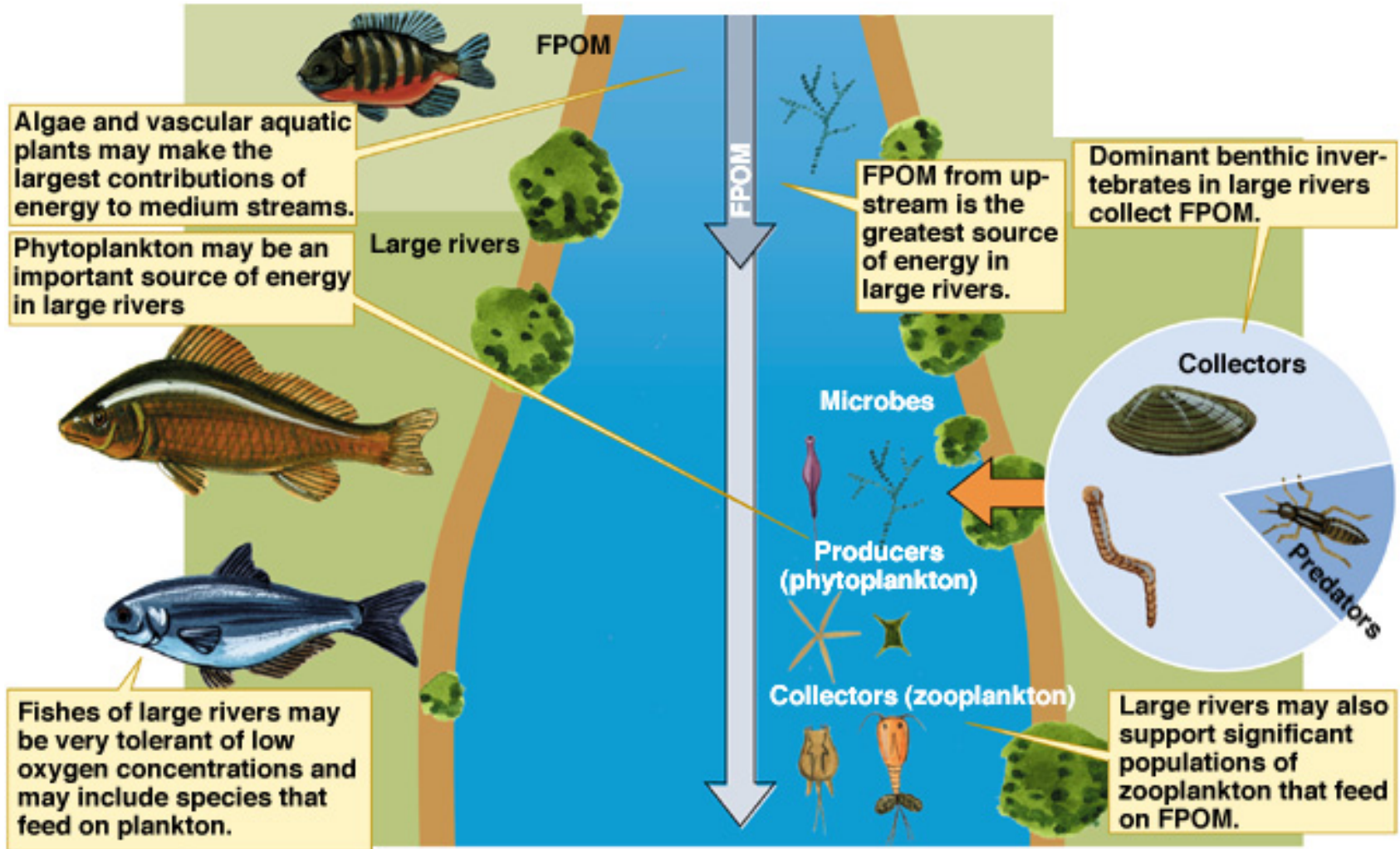


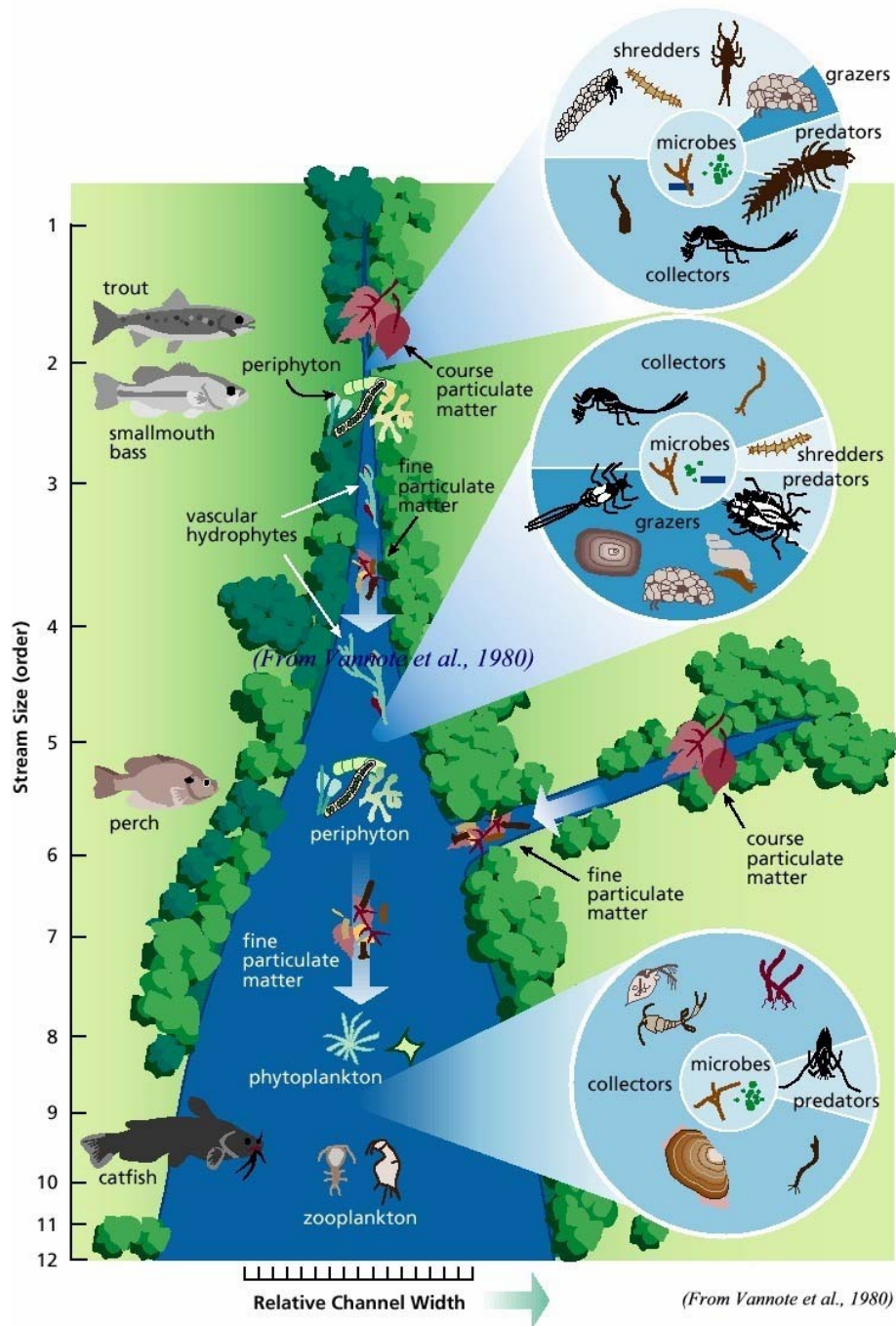


Stream Continuum

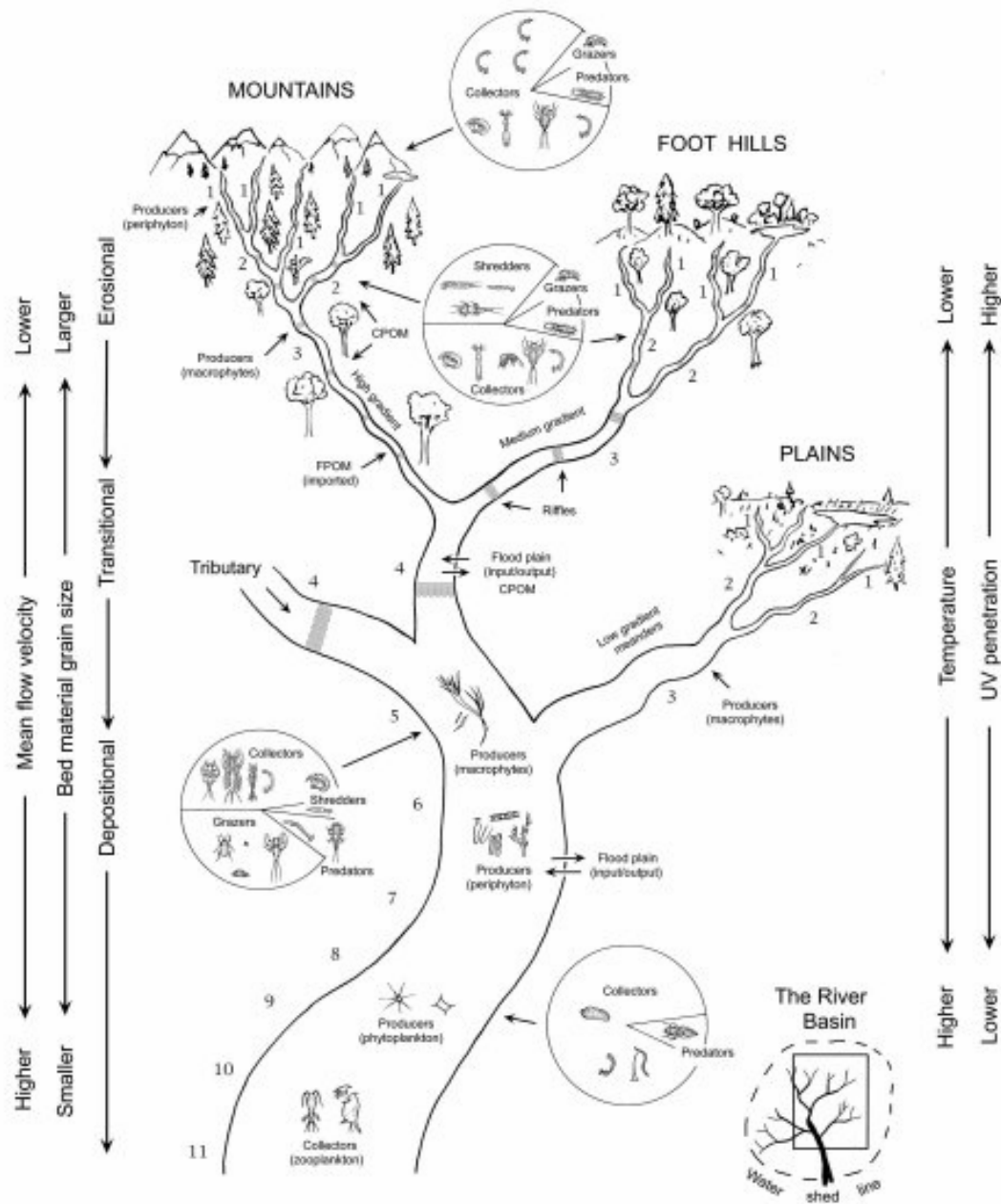


Stream Continuum, cont.

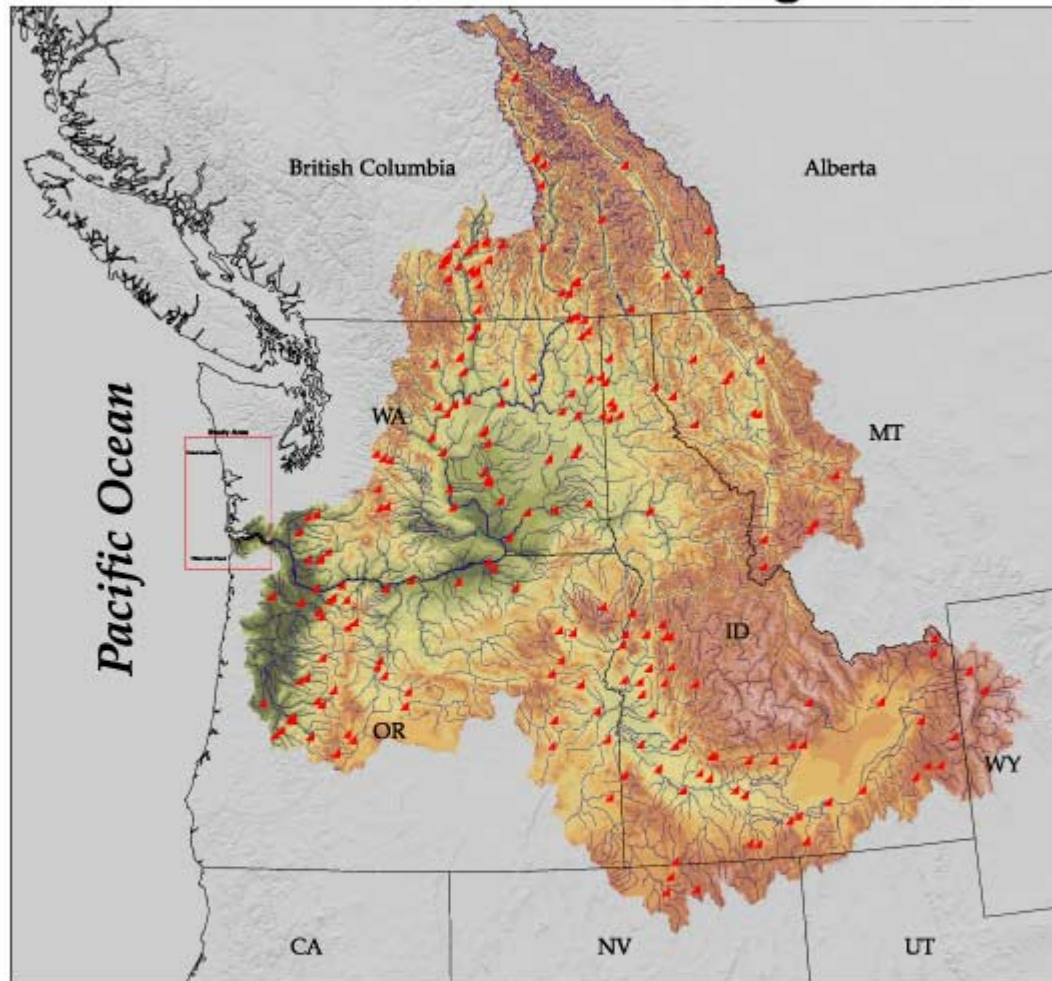




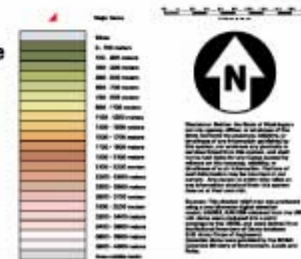
(From Vannote et al., 1980)



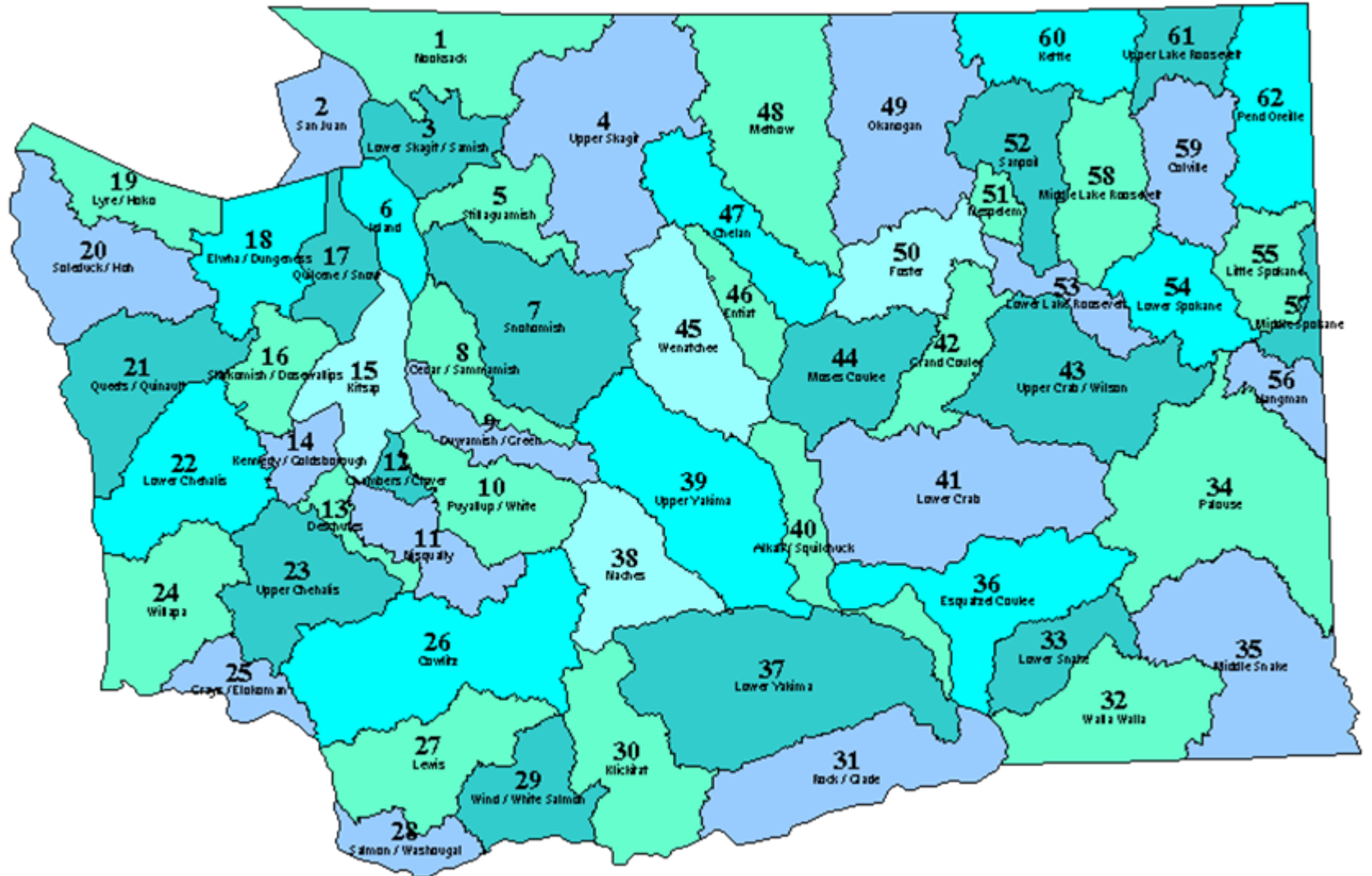
The Columbia River Drainage Basin



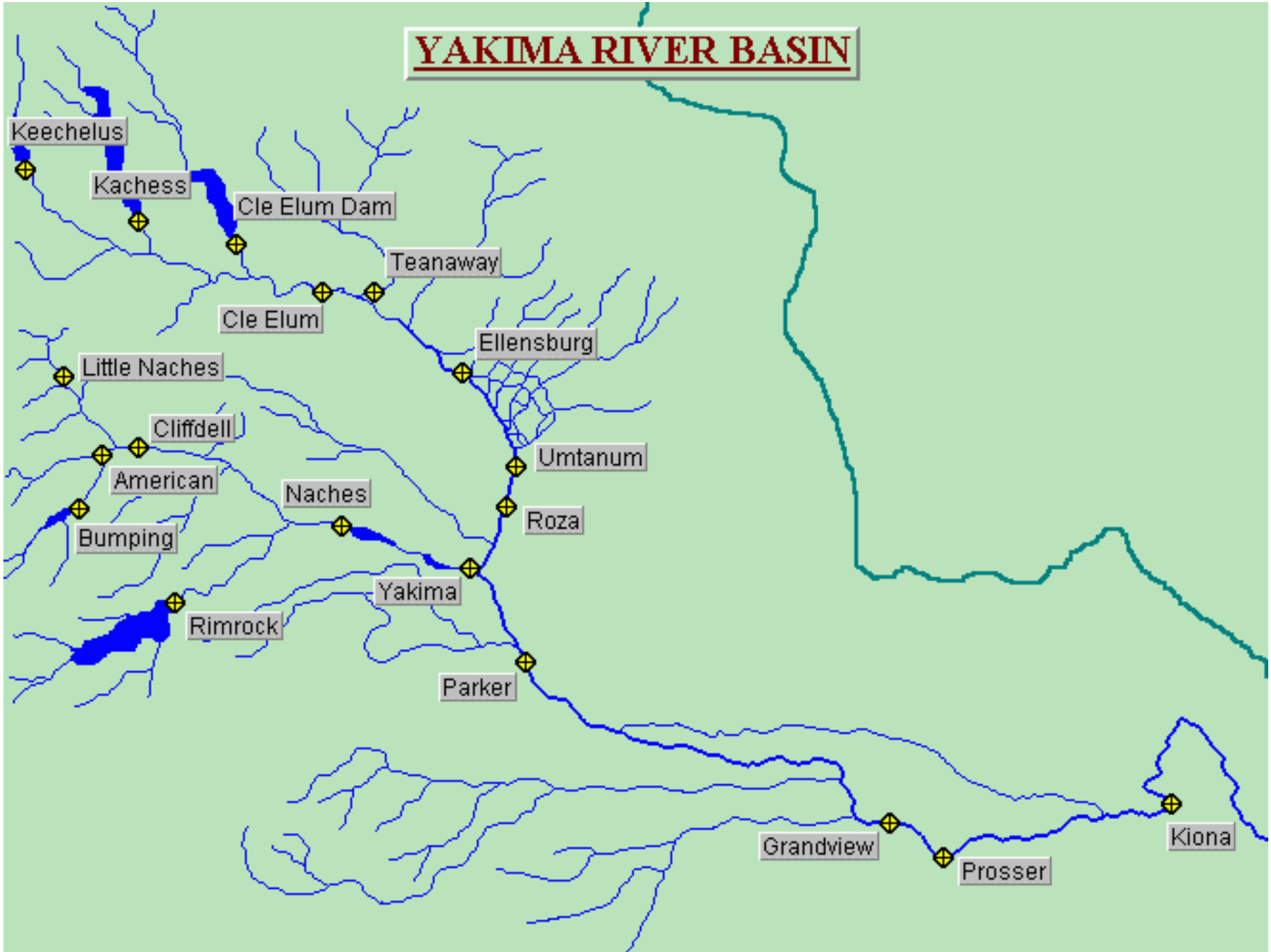
The Columbia River drainage basin encompasses approximately 675,000 square kilometers, and the Columbia River is the third largest river in the United States by water discharge. A total of 219 major dams are located within the basin, which contribute to decreased peak flows in river discharge, resulting in less flooding and less sediment carried by the river. It is estimated that the discharge of sediment to the estuary has decreased by about two-thirds since the late 1800's.



Source: National Map of North America, 1:250,000 scale, 1987 edition. The map is a derivative of the National Map of North America, 1:250,000 scale, 1987 edition. The map is a derivative of the National Map of North America, 1:250,000 scale, 1987 edition. The map is a derivative of the National Map of North America, 1:250,000 scale, 1987 edition.



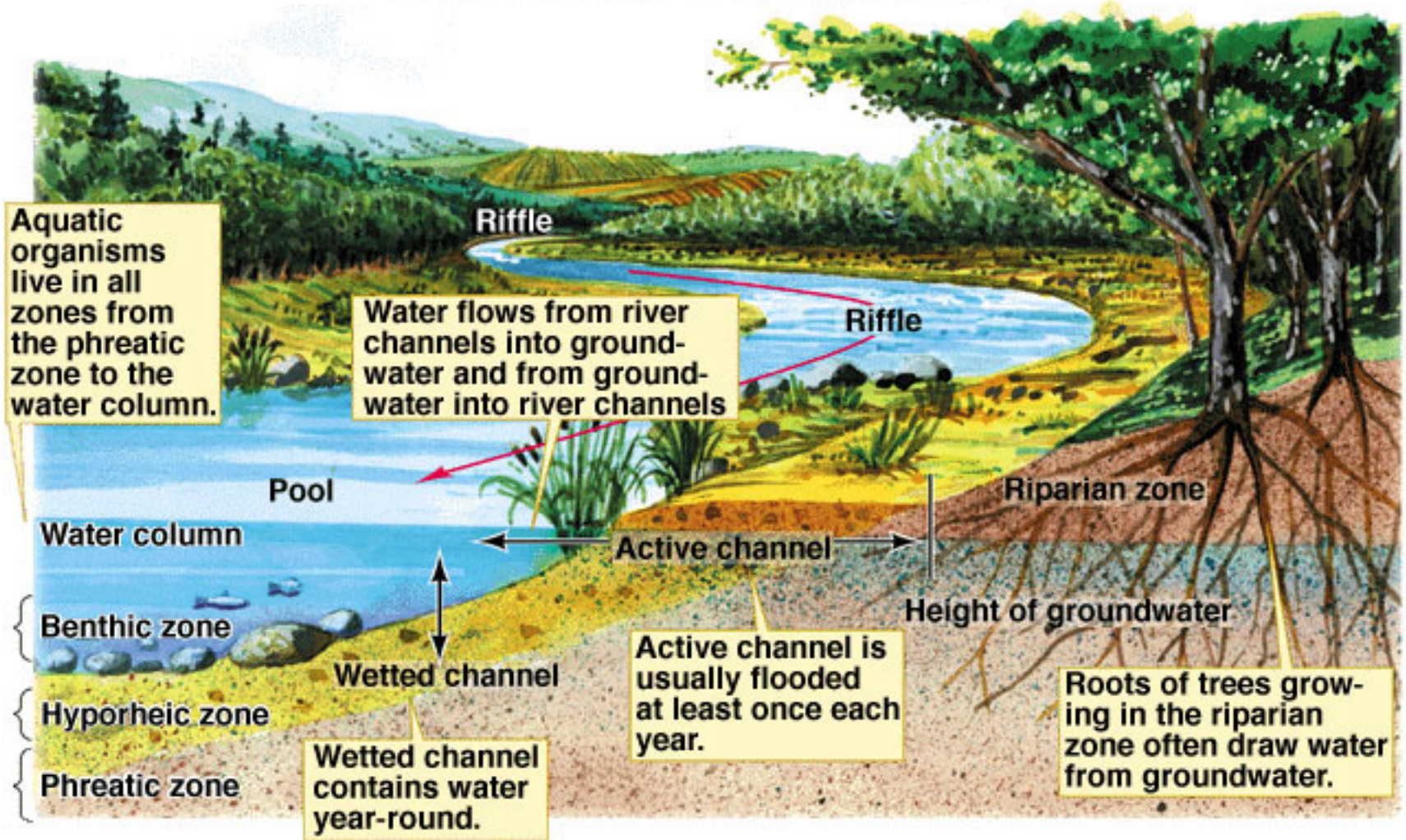
YAKIMA RIVER BASIN





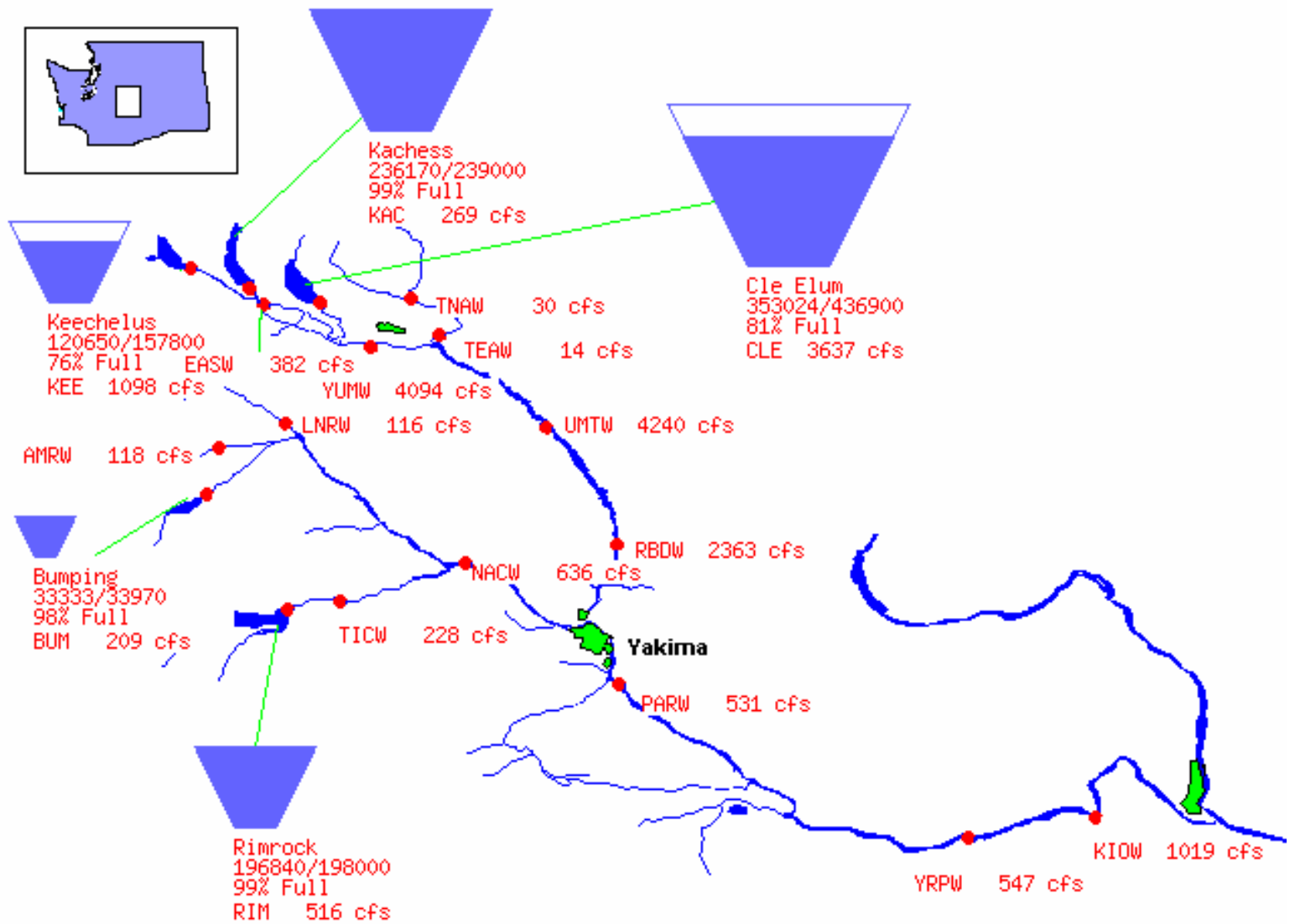


Stream Structure

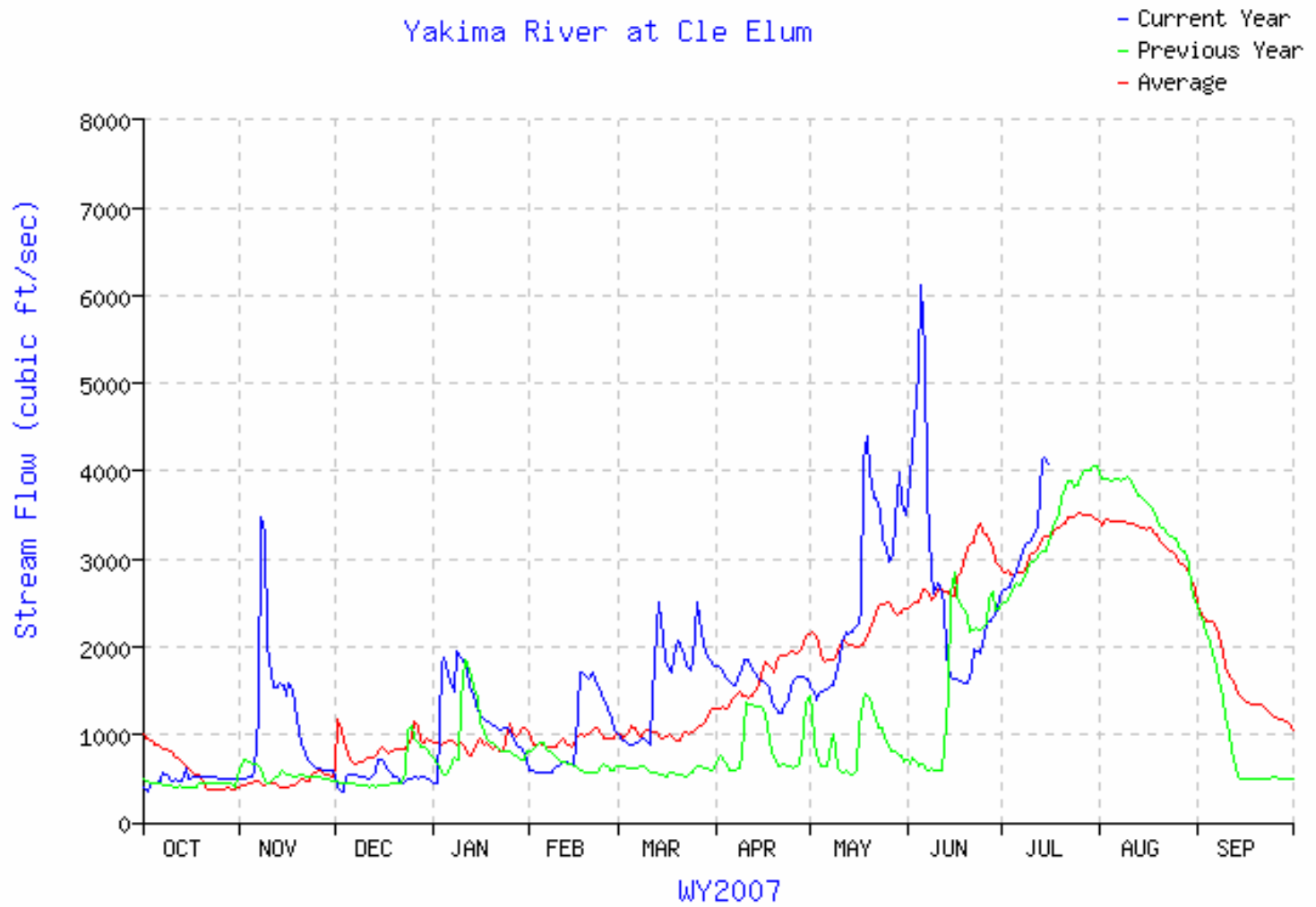




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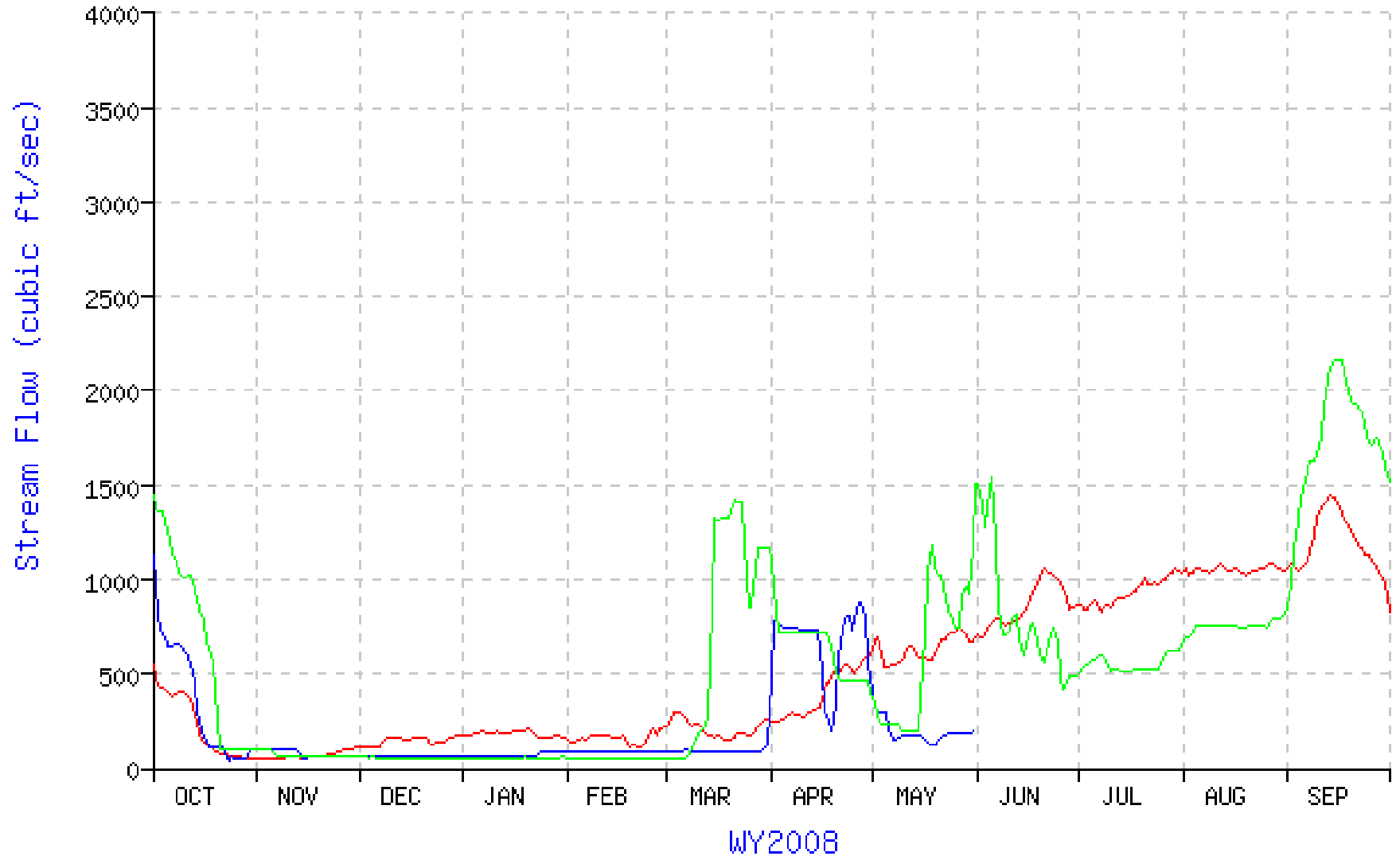
Yakima River at Cle Elum



07/15/2007 06:15

Rimrock Reservoir

- Current Year
- Previous Year
- Average





Patti Perkinson

