

Stream Classification

- 1.) Determine your cross section by choosing a fairly straight section of the stream.
- 2.) Find bankfull stage (when stream water begins to overflow into the active floodplain; the active floodplain is defined as the flat area next to the channel that is overflowed by the river every 2 years or less)
- 3.) Indicators of bankfull stage are: a change in vegetation or particle size of bank material, undercuts in the bank, stain lines on boulders, slope or topography, and the height of depositional features. Try and find several indicators.
- 4.) Place pins in ground at bankfull stage.
- 5.) Tie string across the stream connecting the pins. Place leveler in the middle of the string and adjust string until level.
- 6.) Set up tape measure parallel to the string. Orient the tape at zero on the left edge of water looking downstream.
- 7.) Measure and record bankfull width.
- 8.) Begin your cross sectional measurements: Make sure measuring rod is perpendicular to the string and to record the distance on the tape next to the correlating depth.
- 9.) Take a measurement every time there is a change in depth/elevation. Record the depth from the string to the bank, water surface or stream bottom as you move across the tape measure and string. If there is no change in elevation proceed across your cross-section measuring at equal intervals.
- 10.) Calculate mean (average) bankfull depth by adding the depths' and dividing by the number of measurements taken. Record results.
- 11.) Find width/depth ratio by dividing bankfull width by the mean bankfull depth. Record results.
- 12.) Find the maximum depth recorded in your cross section. Record results.
- 13.) Find the flood prone area width. The flood prone stage is level of the water at twice the maximum depth. Determine flood prone width where this stage intersects the bank or ground on either side of the stream channel. Record results.
- 14.) Find the entrenchment ratio. This is the flood prone area width divided by bankfull width. Record results.

- 15.) Determine the sinuosity of your stream. This is the stream length divided by the length of the valley. Use an air photo of the area and measure the stream and valley with a string and ruler. Record results.
- 16.) Perform a pebble count to determine dominant substrate type and record results.
- 17.) Determine the stream classification using the charts below or the Field Guide for Stream Classification book.

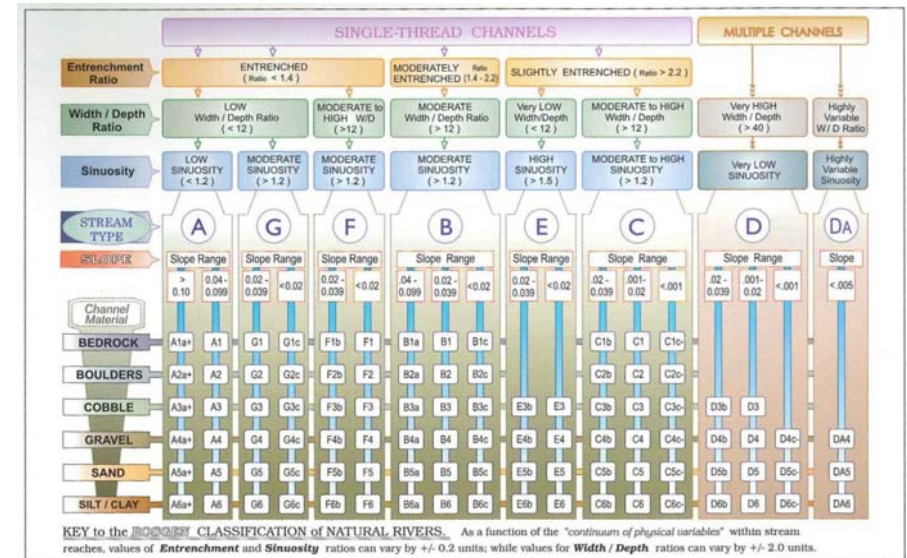


FIGURE 20. Classification key for natural rivers.
Field Guide for Stream Classification: Rosgen, D.L. and H.L. Silvey. 1998.