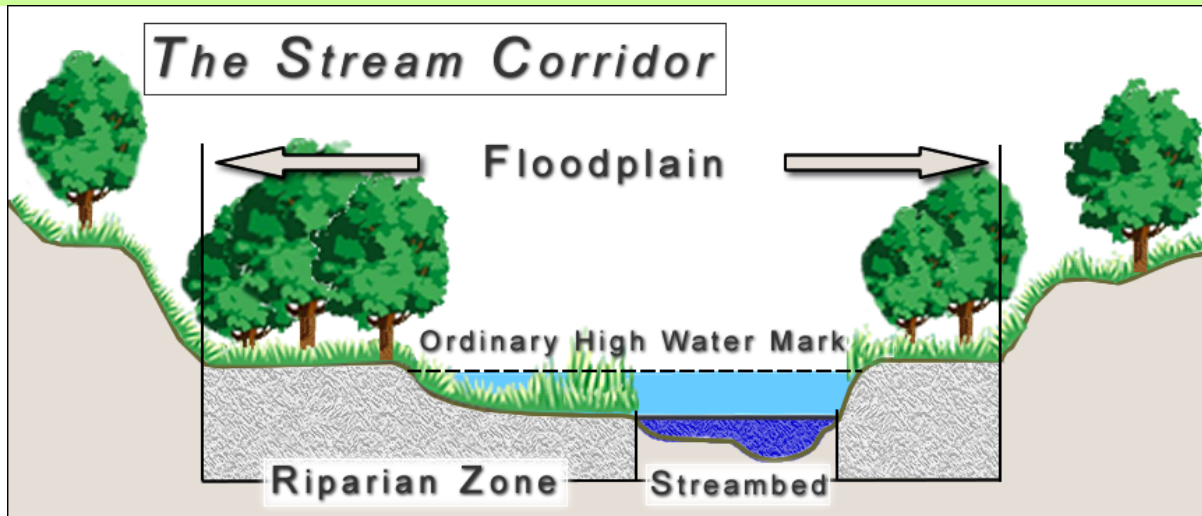


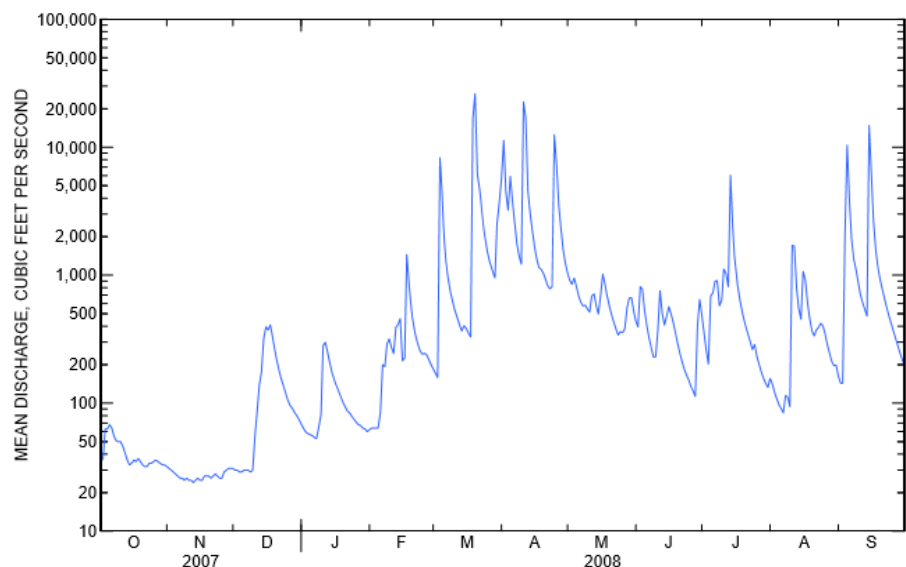
3.1 Understanding the Stream Corridor



The **floodplain** is the streamside land that periodically gets inundated by the river's floodwaters. You may have heard insurance companies talk about the 100-year flood event. This refers to the possibility that a flood will occur on that site for a given year. A 10-year flood event has a 10% probability of occurring for a given year. A 50-year event has a 2% probability of occurring for a given year. It is possible to have many 50-year events occur in one year. Flood-insurance studies use these statistics in a slightly different context. For example, a home located in a 100-year flood plain will have a 25-percent chance of experiencing a 100-year flood during a typical 30-year home-mortgage period.

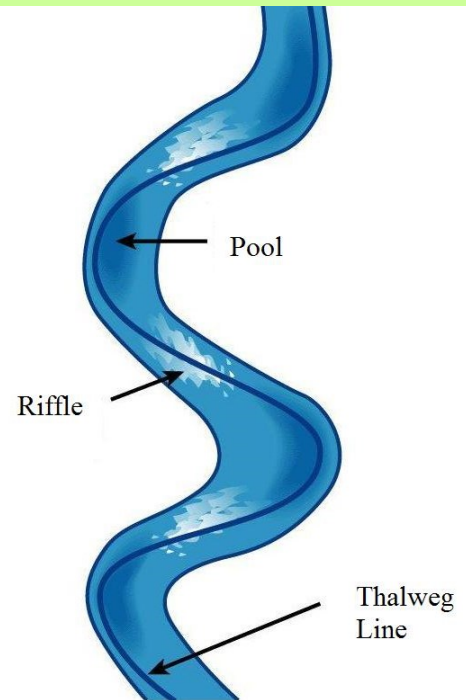
Floodplains are especially important during high flow events. These areas serve as natural sponges, soaking up the high energy of the floodwater and slowly releasing it over time. Floodplains are usually the most fertile soil in a valley because they annually receive nutrient rich water from the stream.

Flood frequency and severity can be exacerbated by a loss of floodplain acres. Channelized or imbedded streams rise more quickly than streams that can disperse energy onto floodplains.



Discharge at Kings River USGS Gauging Station in 2008. Avg normal discharge is app 30 cubic ft/second.

Focus on Riffles and Pools



The headwaters of the Kings River lie in the rugged and steep Boston Mountains. The river drops as much as 20 feet per mile here and forms many waterfalls. Once the Kings River escapes the mountains near Kingston, the river only drops about 3-5 feet per mile. Here the stream begins to meander through the floodplain and form **riffles** and **pools**.

Riffles, or crossings, are usually found between the bends, and can be recognized by shallow water and protruding rocks. Pools are much deeper and are generally found on the outside bend of a meander. The location of riffles and pools is not at all random. The river creates regularly spaced riffles all the way down its span in order to get rid of extra energy and maintain stability. This is why it is usually futile to try to build a crossing or pool where one does not naturally exist. The river will simply fill in your pool or scour out your crossing as needed to reach equilibrium again.

Riffles and pools provide different types of important habitat for aquatic creatures. Creatures that need a lot of oxygen and can withstand high flows usually live in the riffles. The larvae of mayflies and caddisflies along with many others take advantage of the tiny spaces between rocks for shelter. Silt and fine sediments generally cover the bottom of the pools, making these areas poor habitat for tiny creatures. However, this deep water does provide important habitat for fish and other aquatic species.

