WATERSHEDS

Watersheds have a big impact on the water cycle. A watershed, also called a drainage basin, is the area in which all water, sediments, and dissolved materials drain from the land into a common body of water, such as a river, lake or ocean. A watershed encompasses not only the water but the surrounding land from which the water drains. This can be an area as large as the Mississippi River drainage basin or as small as a backyard.

A watershed may be either a large or small area, and its characteristics can greatly affect how water flows through the watershed. For example, the flow in a particular stream may fluctuate dramatically with rainfall because of the characteristics of the watershed. Heavy storms may cause streams to rise rapidly. Human-made features of the watershed like dams or large paved areas can change stream flow and alter the watershed. If the topography is steep, changes in stream flow due to runoff can be significant.

In some watersheds, stream flow may take a long time to respond to rainfall runoff. On heavily vegetated, relatively flat terrain, infiltration is great, or runoff is slowed by vegetation. Eventually, however, runoff will make its way through the watershed and become stream flow. In these areas, stream flow will rise slowly, but also recede slowly.

The stream flow characteristics of a watershed can be a key to evaluating the quality of the water in the watershed. Streams start out in higher elevations, and flow downward, eventually finding their way to the sea. But they don=t travel in straight lines. Their paths vary. The terrain may be steep in some areas, causing rapid flow, and flat in other areas, allowing the water to get deeper and spread out. These grade changes create different habitats in the stream which support different forms of life and change the quality of water in the watershed.

Water quality is critically impacted from everything that goes on within the watershed. Mining, forestry, agriculture, and construction practices, urban runoff from streets, parking lots, chemically treated lawns, and gardens, failing septic systems, and improperly treated municipal sewage discharges all affect water quality. Reducing pollution and protecting water quality requires identifying, regulating, monitoring, and controlling potential pollutants. Some examples of control practices include protecting streambanks and shorelines by maintaining vegetated buffer strips, treating all wastes to remove harmful pollutants, or using grass-lined catchment basins in urban areas to trap sediment and pollutants.