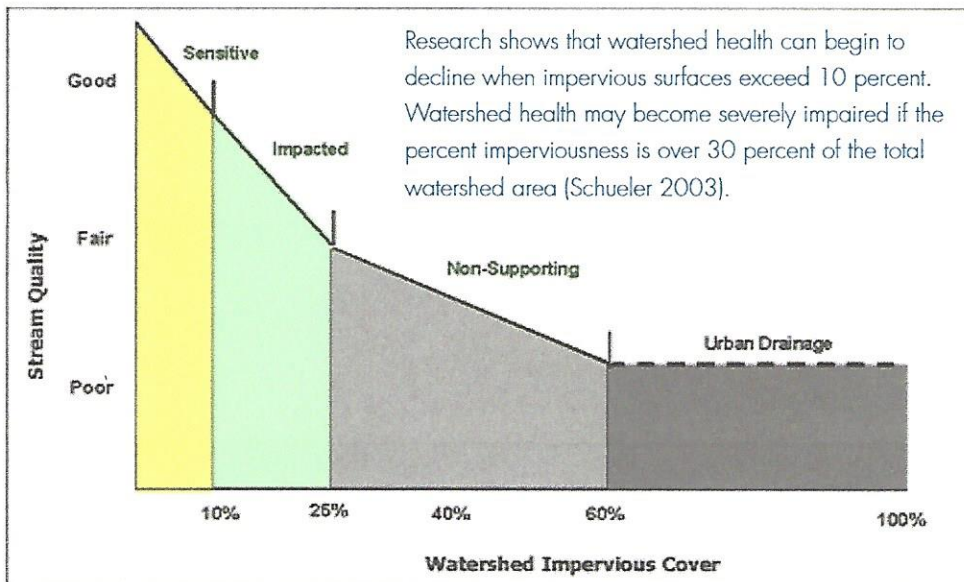


# Land Use and its Impact on Water Quality

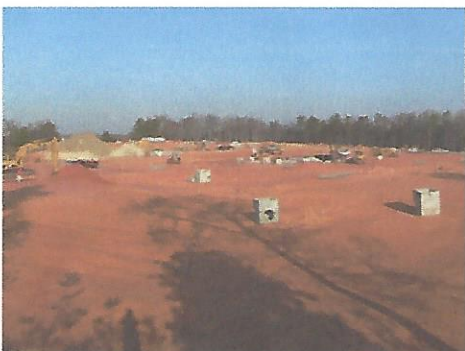


Natural areas including forests, wetlands, and open spaces help protect water quality by infiltrating runoff and treating pollutants. Other land uses including developed areas and agriculture can adversely impact water quality if not carefully planned and managed. Development leads to an increase in impervious surfaces such as roads, parking lots, rooftops, and driveways. Impervious surfaces prevent rainwater and runoff from infiltrating the ground leading to an increase in runoff volumes and rates. This increase can cause flooding, streambed erosion, and sedimentation. For example, a one-acre parking lot produces 9 times the volume of runoff that comes from a one-acre forest.



Developed land is a source of pollutants including household chemicals, fertilizers, pesticides, pathogens, metals, oil and grease. The pollutants often settle on impervious surfaces and then are carried to surface waters during storm events. Pervious areas including residential lawns are typically the largest source of phosphorous in a watershed.

Polluted water degrades aquatic habitat and has a negative impact on plants and animals.



Construction activities associated with development or redevelopment cause soil disturbance. As a result, sediment and pollutants may be released and then run off from the site and enter surface waters.



Increased stormwater runoff volumes and velocities can lead to damaging streambank erosion and sedimentation.



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References: Schueler 2003. "Impacts of Impervious Cover on Aquatic Systems." Center for Watershed Protection, March 2003  
EPA 2005. "Growth and Water Resources. Office of Water 842-F-02-008"