

Project #: 00-1100

Project Name: Rock Creek Urban Watershed Stream Corridor Assessment

Watershed(s): Lower Arkansas-Maumelle, HUC #11110207

County(ies): Pulaski? (City of Little Rock)

Project Type: Monitoring

Pollutant(s): Urban runoff

Project Summary

The Rock Creek Watershed, a sub watershed of the Maumelle Watershed, should command special attention given the city's westward expansion and development into a headwater area of the watershed. The Rock Creek Watershed, having a drainage area of 20 mi², is composed of mixed coniferous and deciduous forest on a moderately steep and elevated topography, typifying a Ouachita foothill drainage. Rock Creek is an appropriate watershed for identifying the effects of anthropogenic change on the stream corridor system because the system is in the process of immediate change. A large portion of the downstream watershed has long been developed and under the stress applied by urbanization; however development in the upstream portions is occurring rapidly with the headwaters of the creek network soon to come under intense development pressure. An evaluation of the stream corridor and establishment of practices that can mitigate the effects of the development in the upstream portions of Rock Creek should be performed. A pro-active effort today may help to prevent the destruction of the functionality of the Rock Creek stream corridor and allow the promotion of the many benefits that a protected watershed can provide for stakeholders.

The project goals/objectives are to make a preliminary assessment of the Rock Creek Watershed which will include a) delineation of the Rock Creek watershed; b) preliminary assessment of the form and function of the Rock Creek Corridor; c) preliminary assessment of the water quality within Rock Creek; and d) identification of tributaries of Rock Creek which have the greatest potential to affect the water quality of the creek.

To effectively make decisions regarding allocation of monies to be utilized for stream corridor preservation and restoration, a comprehensive and accurate biological, chemical and physical assessment of the stream corridor must be initiated. Additionally, the identification of sources of chemical contamination is critical in the decision-making process. Only after a thorough evaluation of the watershed has been conducted can the decision-making process proceed economically and efficiently.

Success and performance will be measured by the development of a clear picture and a thorough understanding of the elements which affect the stream corridor of Rock Creek, so that future work can attempt to reduce the impact of these elements on the water quality of Rock Creek. The ultimate purpose of this assessment is to develop a "stream corridor master plan." The plan could be used as a tool for city planners in making decisions regarding Rock Creek and its tributaries.