

Purpose of the Project

The Susquehanna River Basin Commission (SRBC), in partnership with the Lancaster County Conservation District and five watershed groups, is spearheading a project to address water quantity issues in a 32,000-acre limestone-based area underlying parts of Chiques Creek, Cocalico Creek, and Lititz Run Watersheds in Lancaster County (see study detail map). The Lancaster County Conservation District and the Delaware River Basin Commission are both assisting with the project.

SRBC and its partners will be developing a model water budget analysis for the area that includes the communities of Manheim, Lititz, Denver, and Ephrata. Project participants will engage the local public through an advisory group and educational workshops to present results and potential implementation strategies. A vital component of any comprehensive water resources planning effort is the analysis of resource availability at the local watershed and ground water basin hydrologic scale. Input from local communities will be an important component of this project.

ANALYZING THE AVAILABILITY OF WATER IN NORTHERN LANCASTER COUNTY

What are the objectives of this project?

The goal of SRBC's model water budget analysis project is to identify areas where the demand for water exceeds, or is projected to exceed, available supplies. A series of water resource management recommendations also will be developed for consideration by local interests in future planning activities. The study results also will assist SRBC in assessing applications for the withdrawal of water in the project area.

How does a water budget help identify supply-limited areas?

The water budget process considers the natural water cycle in a particular area and compares the availability of water to the amount of water that is withdrawn and used in that area. When conducting a water budget, it is very important to understand the connection between the area's ground and surface water. Ground-water aquifers can provide and receive water from surface sources. In fact, during times of drought, ground-water aquifers might be the only source of water to a

The Water Budget Study Area



particular stream—providing the stream’s baseflow. Ground-water aquifers are also major sources of water for domestic, industrial, and agricultural uses.

During a water budget study, the contribution of ground water to baseflow is assessed and the locations of ground-and surface-water withdrawals are determined. As ground-water withdrawals increase to meet growing demands, ground-water supplies may be removed faster than the area’s natural recharge cycle—creating a water deficit.

What are the major components of this water budget project?

The project is organized into five phases: (1) public outreach and advisory group; (2) data collection and field assessment; (3) water budget and water use analysis; (4) resource management recommendations; and (5) workshop. An advisory committee, involving citizen and watershed groups, will be active in all the phases.

The project is being funded largely by a \$121,000 grant from the Pa. Department of Environmental Protection’s Growing Greener Program. The timeline for the project is October 1, 2002 through June 30, 2005.

Phase 1: Public Outreach & Advisory Group

In early 2003, SRBC and the project partners will conduct a public meeting in the project area to announce the project. The purpose of this meeting is to inform local stakeholders of the objectives for this project and to solicit participation on the advisory committee to SRBC.

The advisory committee is to be comprised of representatives from system users (residential, industries, farmers), system operators (municipalities, private suppliers), municipal and county planning agencies, watershed organizations, citizen and environmental groups, and others. Committee members will be asked to provide input throughout the project and to review and offer comments on the recommendations that will be developed under Phase 4 of this project. Anyone wishing to be notified of the public meeting in early 2003 should contact Doreen McCabe at 717-238-0425, ext. 106 or by e-mail at dmccabe@srbc.net.

Phase 2: Data Collection & Field Assessment

Prior to conducting the water use analysis, SRBC will be collecting and reviewing existing environmental data, in cooperation with the advisory committee. Existing water use data are stored in many places, in various formats, and by different agencies. Where data gaps may exist, additional field data will be collected as part of the project.

Phase 3: Water Budget & Water Use Analysis

SRBC will use and modify, as needed, a water use analysis computer program developed by the Delaware River Basin Commission and the U.S. Geological Survey. The computer program uses relational database management software that allows for water use data input, editing, updating, and output to a water use report. Results will help define the potential water shortfalls and provide input to the development of water resource management recommendations.

Phase 4: Management Recommendations

Water resource management recommendations will be prepared by SRBC and Land Studies, Inc., in cooperation with the advisory committee, and will pertain to issues and concerns identified in the water budget and water use analysis. The intent of the recommendations is to provide local governments with strategies to address water resource issues within existing township plans, county plans and local initiatives, and to help guide future activities. Topics to be addressed include practices that could be used to conserve and protect water resources, effectiveness of practices, and costs of implementation. Practices include both engineering and behavioral approaches for both system users and system operators.

Phase 5: Workshop

A public workshop will be held to present the water budget and water use report and resource management recommendations. The purpose of this meeting will be to educate the local watershed community regarding the demands on water supplies, the impacts that result, and strategies to protect and conserve those resources. For more information on the water budget project, contact Bob Edwards at SRBC, (717) 238-0425, ext. 213 or by e-mail at redwards@srbc.net.