

CASE STUDY

Regional Drinking Water Protection

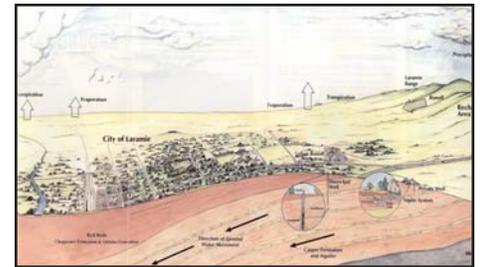
Laramie, Wyoming

In September, 1997, the U.S. Environmental Protection Agency approved a Wellhead Protection Program for the state of Wyoming. This program included guidelines to help communities within Wyoming develop protection plans for their local groundwater sources. In 2002, Albany County and the city of Laramie used these guidelines to develop the Laramie Regional Drinking Water Protection Program. This program protects the Casper Aquifer, which supplies 60% of Laramie's municipal water supply under normal conditions, and 100% during times of drought. The goal was to create a plan that would guide land-use decisions and protect the aquifer from contamination.

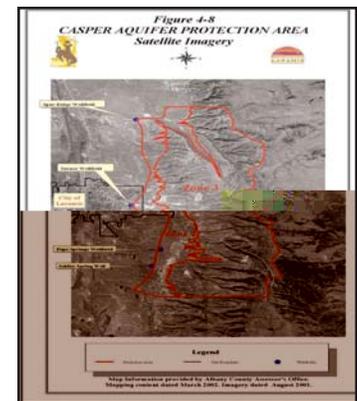
To accomplish this goal, county and city planners worked with the Wyoming CommunityViz Partnership (which consists of the University of Wyoming and regional business groups) to create various land-use alternatives and analyze their impacts on the Casper Aquifer. They used CommunityViz software to develop three land-use alternatives: a scenario involving continua-

tion of current land-use trends; a density-transfer scenario that moved future development away from the aquifer area altogether; and a scenario that included aquifer protection policies such as minimum setbacks for water wells and sewage disposal systems. By using CommunityViz, planners were able to determine the impacts of these three scenarios on water quality and quantity, municipal expenditures, local tax revenues, vehicular and pedestrian traffic, recreation access, landscape appearance, riparian coincidence and vertebrate species distribution.

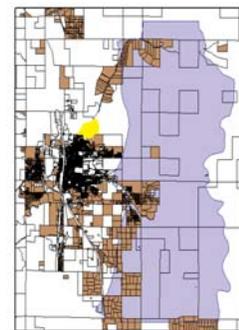
CommunityViz was then used during public meetings to present visualizations of each scenario and to illustrate the impacts on key variables. This information was also presented during a joint planning commission meeting that involved both Albany County and the city of Laramie. Information provided by the CommunityViz analysis sparked discussion leading to more thoughtful implementation of the aquifer protection plan.



Water flow in the Casper Aquifer



Casper Aquifer protection area



Density-transfer scenario moving development away from the aquifer