

# Tools for Educating Private Well & Septic Owners in Colorado



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## Situation

- Colorado is one of the fastest growing areas in the United States (measured by population increase). Growth is occurring internally and from immigration.
- Many residents move to small acreages, often engaging in small-scale agriculture.
- Many of the people moving to rural areas are unaware of various water and environmental quality issues.
- Rural residents in Colorado are usually responsible for managing their own onsite water and wastewater treatment systems.
- Without some basic knowledge regarding these systems, the quality and/or quantity of their water supply cannot be protected.

## Objective

Develop a comprehensive educational curriculum to inform private well and septic owners about water quantity and quality issues. The audience for these materials includes Extension County educators and private well owners.



The Educational Package covers older wells with PVC casing and improperly placed hardware, requiring extra attention to prevent contamination and functional problems.



The educational materials also discuss abandoned wells, shown in this picture underlying an old windmill, once commonly used to provide water for humans and livestock. Abandoned wells can create hazardous environments for both people and ground water.



A CD containing electronic versions of all the tools and a series of PowerPoint presentations is available to county educators. Introductory notes and resource lists are also provided for each presentation.

Educational Modules:

- Well water systems
- Irrigating small acreages
- Septic systems
- Water treatment
- Landscape and crop water quality
- Water use and conservation
- Livestock and water quality protection



A comprehensive bulletin, *Protecting Your Private Well*, covers the basics of well components, testing, and protection. It also covers water quality interpretation and treatment, as well as septic system components and maintenance.



A web-based, interactive *Water Quality Analysis and Interpretation Tool* – guides users in properly interpreting their laboratory water analyses. Users can select interpretations for domestic, livestock, or irrigation water. The tool is linked to the CSU Cooperative Extension Water Quality site: [www.csuwater.info](http://www.csuwater.info)



A series of new and revised water, well, irrigation, and water quality fact sheets are assembled in hard copy and made available on the CD. Fact sheets are written for the general public and county agents.



**Tool Box Contents**



A DVD from American Ground Water Trust, covering *Water Well Basics*, is made available to county educators in the educational package.



Two recordkeeping folders for private well and septic system records, developed in cooperation with the Northern Plains and Mountains Regional Water Quality Program, meet the record keeping component of private well protection.



A Ground water model in action at the National Western Stock Show. A Colorado-based, educational curriculum was developed to demonstrate ground water principles and protection, with models purchased from Iowa State University. These models and curriculum have been distributed to county educators across the state. Models are repacked to more closely represent Colorado Geology.



A Well Protection booth was developed to focus attention on activities around the wellhead and proper septic system maintenance. Both panels are also available in poster form and electronically for county agents in remote counties to print and use.

## Partnerships and Training

- The Colorado Water Well Contractors Association is a key partner in delivering the educational program to their clientele - the private well owner.
- Training on this educational package is being offered to Extension Educators. Mini-grants are also offered to Extension Educators as seed money for educational programs.
- Ground water models are purchased using small grants from the Colorado non-point source (NPS) education program through US-EPA Section 319 money.
- County health departments participate in educational programs by teaching about local septic system rules and conditions.



The educational package covers wellhead setbacks. This picture shows a well in close proximity to a livestock corral – a common potential source of contamination at many rural properties in Colorado.



The materials in this program also explain proper design, installation, location, and maintenance of septic and well systems. Following correct procedures in this regard should result in healthy systems for the lifetime of each system.

## Program Example



Advertisement and news clipping from an educational program held in the Wet Mountain Valley Colorado - a mixed community of old ranches, historical mining, growing tourism and new small acreage residents. The educational package is a partnership between 406 and CSU County Educators and has trained hundreds of participants.

## Summary

To ensure safe drinking water, rural residents must be educated and motivated to be proactive in protecting their water supplies. By packaging a comprehensive educational curriculum, CSU Extension is working to educate rural residents on protecting their own water supplies. We are using a multi-media, educate-the-trainer approach that allows users to customize learning to suit their individual needs.