



## Idaho Department of Environmental Quality Pollution Prevention Champion

### Rock Creek Demonstration Project

Twin Falls, Idaho

2007

## Environmental Commitment

Rock Creek, located near Twin Falls, is contaminated by sediment, nutrients, E. coli, and high water temperatures. Rock Creek has historically supported fish spawning, other types of aquatic life, recreation, and irrigation.

The Rock Creek Demonstration Project was a partnership between the Natural Resources Conservation Service, the University of Idaho, the Mid-Snake River Water Advisory Group, the Idaho Department of Environmental Quality (DEQ), and the residents of the Oregon Trail subdivision. The project was designed as an experiment to reduce water pollution from small acreage subdivisions and find solutions where established subdivisions have irrigation inefficiencies.

## Pollution Prevention Success

### The Problem

The Oregon Trail subdivision is a small island of houses and pastures created out of 70 acres of farm land on Rock Creek canyon, near Twin Falls. Historically, the land has been irrigated by flooding. However, because flooding provides much more water than the land actually needs, the excess water drains to neighboring farms and into Rock Creek. Some of the excess water also soaks through the shallow topsoil, taking fertilizers and pesticides with it, mixes with septic tank effluent, percolates into the drinking water aquifer, and eventually discharges into Rock Creek.

When the Oregon Trail subdivision was developed, the residents retained the canal water shares of the original farms, and Twin Falls Canal Company delivered Oregon Trail's irrigation water through the old flood irrigation system. However, due to inefficiencies of these systems, residents eventually stopped using flood irrigation and began irrigating their land from domestic wells.

### The Solution

The project attempted to solve the water quality issues by achieving three goals:

- Encourage Oregon Trail subdivision landowners to participate in an education program to more efficiently manage the soil and water on their properties.
- Reduce or eliminate irrigation runoff in the Rock Creek tributary of the Snake River.
- Protect ground water from contamination caused by flood irrigation.

### Education

The University of Idaho offered classes for Oregon Trail residents to learn about various topics including how to irrigate properly, manage erosion, use native plants to conserve water, and more. Staff from the agencies took soil samples and taught residents how to design fertilizer and water management plans that would keep their lawns and pastures green without putting nitrogen and phosphorous in the creek or ground water. The soil sampling allowed residents to see which nutrients their property was high or low in as well as what steps were necessary to get a balanced level of nutrients.

## Pressurized Irrigation System

One of the biggest problems for the Oregon Trail residents was the flood irrigation system itself. Flood irrigation wasted water, drained pollutants into Rock Creek, and created tension among the residents when over-flooding occurred or residents did not receive enough water. Therefore, a change was made to a pressurized irrigation system. This would allow the residents to use canal water to irrigate all of their land efficiently without polluting Rock Creek or the ground water and without damaging wells, septic tanks, or the aquifer. The pressurized irrigation system assured that there would always be enough water to go around. Additionally, unlike the old system, residents were able to turn off water to their land. By implementing a pressurized irrigation system residents are conserving 8.5 million gallons of water each year.

## Lessons Learned

- Small acreage land owners are a powerful force for protecting water quality.
- Replacing flood irrigation with pressurized irrigation, saves water, eliminates runoff that pollutes surface water, and stops over-watering that pollutes ground water.
- Pressurized irrigation systems can have a large impact on both water quality and efficiency.

## For More Information

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