

Watershed Operations

October 2010

Water Supply

Upper Tygart Valley Watershed

Introduction

The Elkwater Fork Dam, in the Upper Tygarts Valley River Watershed provides a water supply to southern Randolph County residents. As a condition of permitting under the Clean Water Act 401/404, mitigation activities must be completed before the dam can be utilized to supply water.



The Upper Tygart Valley Watershed Project located is in Randolph County, West Virginia.

Project Sponsors and Partners

- City of Elkins
- Huttonsville Public Service District
- Randolph County Commission
- Town of Beverly
- Town of Huttonsville
- Town of Mill Creek
- Tygarts Valley Conservation District
- Upper Tygart Valley Watershed Partnership
- USDA Natural Resources Conservation Service
- West Virginia Conservation Agency

Project Description

- **Location:** Randolph County, West Virginia, Second Congressional District

- **Size:** 173,100 acres (watershed)

Dam construction began on the in May, 2006 and was it completed in June 2009. Federal, state, and local partners worked together for funding. Federal sources provided \$23 million (75%) for the Elkwater Fork Dam through the NRCS PL 566 program. State and local partners provided \$8 million (25%) and acquired land needed for the project. The dam project was a priority for Senator Byrd who worked for congressional funding. The project is one of the largest contracts ever administered by NRCS.

Roller-compacted concrete (RCC) was used to provide the 54-acre water supply impoundment. RCC has three key properties that make it uniquely suited for dams: economy, performance, and high-speed construction. It has the strength and durability of conventional concrete, but at a cost that rivals earth or rockfill construction. RCC has the same ingredients as conventional concrete: cement, water, and aggregates. RCC is much drier than conventional concrete causing an irregular surface. The less than perfect concrete finish does not affect the structural integrity of the dam. The dam was built by Heeter Construction from Spencer West Virginia. Most of the crew was from the Randolph County area and 80 percent of the materials used to build the dam came from West Virginia.

As a condition of permitting under the Clean Water Act, on- site mitigation activities were completed before the Elkwater Fork Dam could be utilized to supply water. On-site mitigation work included creation of .75 acres of wetlands, angler access improvements (boat launch area, handicap accessible



The Elkwater Fork Dam has a paved handicap accessible fishing area. The permanent water pool in the background is 14-feet deep. The roller bucket pool will attract fish because it will be filled with cold water from the bottom of the dam.

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View looking up at the dam

fishing area, and an angler walking trail). Mitigation work is also being done in the adjacent Shavers Fork watershed. This off-site component includes the use of natural stream restoration methods to improve aquatic habitat on about seven miles of trout stream including creating deep pools, reducing erosion, adding riparian vegetation, narrowing over-widened sections, and creating woody fish habitat. Federal funding for the mitigation work was provided by the American Recovery and Reinvestment Act of 2009 (ARRA).

Benefits

The Upper Tygart Valley Watershed Project will improve health and human safety by providing needed water supply for communities in the Upper Tygart Valley River Watershed. In 1993, several towns in this watershed experienced a critical shortage of water. Several schools were not able to hold classes on opening day due to the water shortage crisis. At a critical point the one water plant was within 72 hours of complete depletion of water.

It is estimated 27,803 residents directly or indirectly benefit from municipal water. Customers are the city of Elkins, and the towns

of Beverly, Huttonsville, and Mill Creek (four municipalities and three public service districts). The majority of beneficiaries reside in Randolph County.

The 54-acre water supply impoundment provides recreational opportunities. A safety boom improves boater safety since the water flows over the dam, not thru a pipe spillway. A paved handicap accessible fishing area is below the dam.

Statewide Perspective

Complementing this project, USDA Rural Development is planning to provide a loan and grant to Elkins for a Water Treatment Plant and Upgrade Project. Due to emergency circumstances, the City proposes to replace a significant portion of its antiquated water distribution system and construct a new six million gallon-per-day water treatment plant.

USDA Rural Development is also funding a water treatment plant that will be built next to the reservoir that complements this project.

Human health and safety will be improved by providing sufficient water to meet sanitary and fire protection needs.

Randolph County is a recreation destination. The mitigation projects supplement recreational opportunities.

For More Information

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programs/watershed/elkwater/
elkwater.html](http://www.wv.nrcs.usda.gov/programs/watershed/elkwater/elkwater.html)



The Elkwater Fork Dam's primary purpose is water supply. The RCC construction has the strength and durability of conventional concrete with a different finish.

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