

Nonpoint Source Program Success Story

Kentucky

Cromer Ridge Watershed

Erosion Control Best Management Practices Improve Water Quality and Restore Ecosystems in a National Forest

Waterbody Improved

The Daniel Boone National Forest and adjacent private lands had been severely impacted by the illegal use of off-highway vehicles (OHVs) and all-terrain vehicles (ATVs). This illegal use of OHVs and ATVs resulted in erosion and landscape degradation in the Cromer Ridge Watershed. Erosion control best management practices (BMPs) installed have resulted in restored vegetation and ground cover, and significantly reduced sediment loads to the Rockcastle River and Woods Creek Reservoir within the watershed.

OVERVIEW

In the Cromer Ridge Watershed, Rockcastle is a Kentucky Wild River as well as habitat for several threatened and endangered species. Woods Creek is a Source Water Protection Area and provides drinking water for London, the county seat of Laurel County. Illegal use of OHVs and ATVs caused erosion and increased sediment loads in the watershed. Many years of illegal motorized vehicle use resulted in severe soil erosion with adverse effects on wildlife, vegetation, and water quality. The extensive and repeated use of off-highway vehicles damaged the landscape and degraded land values. In 2006, a watershed restoration project was initiated to reduce adverse environmental impacts in the area. The project goals included: 1) eliminate OHV/ATV-caused soil erosion and reduce sediment load in the watershed; 2) restore vegetation and ground cover with native plant species; 3) improve and restore suitable habitat for plants and animals; and 4) reestablish the natural ecosystem.



Sediment plume from OHV use - Woods Creek Lake

HIGHLIGHTS

Early in the project, the focus was on closing the trail system adjacent to the Rockcastle River. This trail and the associated playground areas were dumping sediment directly into the Rockcastle River and threatening several endangered mussel species. To address these

issues, erosion control BMPs, including water bars, sediment basins, and seeding were installed and approximately 9.7 miles of trail were closed with earthen barriers and brush.

Later the project focused on the eroding ridge tops near the I-75 entrance. In this area 10 to 15 feet of soil had eroded and exposed bedrock and unfertile sand. The area was reshaped, erosion control BMP structures were installed, fertile soil was imported and the area was seeded. With the help of a private landowner, old tires and other debris were also removed.

To reduce illegal OHV and ATV traffic in the area, law enforcement was provided by US Forest Service personnel in cooperation with the Laurel County Sheriff's office, throughout the year. This resulted in numerous citations for illegal vehicle use of the area.



Ridge before restoration



Ridge after restoration

RESULTS

As a result of the BMPs installed and law enforcement activities, area slopes have been re-vegetated and much of the illegal OHV/ATV traffic has been eliminated. These activities have decreased negative impact to the environment including erosion and excessive sedimentation in the watershed. In addition, habitats have been restored for several threatened and endangered species.

The Table below summarizes estimated sediment and nutrient load reductions as a result of the Cromer Ridge Watershed Restoration project.

| Cromer Ridge Watershed Restoration Load Reduction Data | | |
|---|-------------------------|---------|
| Pollutant Type | Load Reduction Estimate | Units |
| Nitrogen | 27,810 | LBS/YR |
| Phosphorus | 9,273 | LBS/YR |
| Sedimentation-Siltation | 9,224 | TONS/YR |

To accommodate OHV/ATV users, a list of alternative four-wheel vehicle areas was developed and distributed to local stores and posted on the internet. Several tours of the area were conducted that highlighted trail closure techniques and BMPs installed to reduce erosion. The tours included land managers from around the southeastern United States. Through public education and involvement, outcome of the Cromer Ridge project was also shared with many individual citizens.



Field before restoration



Field after restoration

In recognition of the ongoing accomplishments of this project, the Kentucky Environmental Quality Commission presented a 2009 Earth Day Award to the Cromer Ridge Team of Winchester, honoring the group for its work in restoring more than 8,000 acres of public and private lands affected by years of illegal off-highway vehicle use in Laurel County. The Cromer Ridge Team also received a 2008 Regional Forester's *Partnership Award*.

As the project continues, additional landowners will be contacted for participation; more gates will be closed on some roads and trails where all the land is owned by the US Forest Service; and additional BMPs will be installed on Rockcastle River tributaries.

PARTNERS AND FUNDING

The project was funded by \$582,000 in US Environmental Protection Agency Section 319 funding. State match of \$390,000 was provided by water quality improvement activities funded by the Division of Conservation and the Kentucky Department of Fish and Wildlife Resources (KDFWR). Participating partners include the Kentucky Division of Water; Kentucky Division of Conservation; Daniel Boone National Forest; The Nature Conservancy; Laurel County Government; Private Landowners in the Cromer Ridge vicinity and KDFWR.

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