

Keystone College

Phone: (570) 945-5141

Project Manger: Howard Jennings

Grant Award: \$88,000

This **Riparian Restoration and Interpretation** project improved the riparian corridor adjacent to the south branch of Tunkhannock and Tinglepaugh Creeks. The project area parallels the Nokomis and Tinglepaugh Creeks running through Keystone College campus in LaPlume Township, Lackawanna County.

A one-mile section of creek, known locally as Nokomis Creek, loops behind the campus and separates the college's main buildings from 160-acres of forest. The land surrounding the site was traditionally used as a truck-crop farm. Minimal vegetation along the stream bank and encroaching developments have accelerated stream bank erosion. Erosion, sometimes to a width of 15-feet, and poorly drained soils have restricted access to trails and interpretive areas.

Restoration efforts removed exotic species, stabilized stream banks, and mitigated erosion. Rootwads from three mature sycamores that had fallen into the stream were used for bank stabilization and habitat enhancement. A coir fiber roll planted with wetland seedlings was installed at the water's edge.

The development of a riparian trail, complete with interpretive trail guide, significantly enhanced environmental education programs for Keystone and the surrounding communities. A presentation was developed by two Keystone landscape architecture students and is currently available on CD Rom.

Project Value and Match

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|---------------------------|------------------|
| Grant Award | \$88,000 |
| Cash Contributions | \$29,115 |
| In-kind Contributions | \$64,063 |
| Total Project Cost | \$181,178 |

Significant Revisions to the Scope of Work

On June 2, 1998, a tornado struck Keystone College. The project area sustained much damage. Most of the 140 mature hardwood trees downed in the storm had been growing within the project site. Although the damage was devastating, Project Manager, Howard Jennings, was able to turn adversity into a positive situation by using a number of the fallen trees to construct an outdoor classroom within the project site.

An unexpectedly low bid on plantings resulted in additional landscape improvements to the Creekside Grove area that is used for outdoor graduation ceremonies.

Project Accomplishments

- Planted 59 canopy trees, 32 evergreen trees, 44 understory trees, 481 shrubs, 451 herbaceous plants, 16 fascine bundles, and 150 live cuttings.
- Removed 20 hazardous trees within the woodland corridor and replanted gaps with 2" caliper trees.
- Planted 10-acres of campus woodland.
- Improved 1,700-l.ft. of riparian corridor through planting and management.
- Mitigated erosion along 600-l.ft. of stream corridor using hard and soft-armor techniques that include a stone toe, riprap, bio-logs and live cuttings.
- Completed a Forest Stewardship Plan for the 160-acre back campus.
- Eradicated 400-sq.ft. of Japanese knotweed and multiflora rose.

- Improved 2,600-l.ft. of existing woodland trail along Tinglepaugh and Tunkhannock Creeks.
- Improved 7,920-l.ft. of woodland trail.
- Created a picnic area and outdoor classroom.
- Developed the "*Riparian Trail Guide*."
- Designed, constructed, and installed 3 project signs and 33 markers.
- Provided an on-site inspector at all times during construction.
- Gained approval from the Pennsylvania Fish Commission to allow continued use of the creeks as learning laboratories.
- Received a waiver for collections in the Delayed Harvest Areas of the creek to allow catch and release fishing rather than no fishing.
- Constructed 1.5-miles of riparian trail and connected this trail to the existing Nokomis Trail.
- Sponsored a Countryside Conservancy volunteer riparian planting project that involved 50 local residents.
- Accumulated 400 hours of volunteer services in stewardship activities.
- Used the project site for 5 forestry-related educational events sponsored by Penn State Extension, PA DCNR, and the Conservation District.
- Sponsored a field day hosted by the Alliance for the Chesapeake Bay.
- Achieved a 1 to 1.05 cost share ratio for the grant.

Partners' Contributions

Alliance for the Chesapeake Bay – Technical assistance
 Countryside Conservancy – Plantings
 Keystone College Weekender Class – Site work
 Keystone Landscape Architect Students – Presentation
 Keystone Science Club and International Club – Site work
 Keystone Volunteers College Group – Site work

Lackawanna Soil Conservation District – Technical assistance
 Natural Resource Conservation Service – Technical assistance
 North Tier Resource Conservation – Technical assistance
 Penn State Cooperative Extension – Technical assistance
 Pennsylvania Environmental Council – Technical assistance
 Pennsylvania Fish Commission – Technical assistance
 Pennsylvania Game Commission – Technical assistance
 Pocono NE Conservation & Development – Technical assistance
 Willary Foundation – Financial assistance
 Woodland Resource Adventure Camp – Stewardship activities
 Wyoming County Conservation District – Technical assistance

