

Project Title: Wolf Creek dam removals and riparian restoration

Project Location Wolf Creek, Grove City, PA; Mercer Co.

Latitude 41.167222 (Unnamed dam)

Longitude -80.079722 (Unnamed dam)

41.15508 (Cunningham Memorial)

-80.085408 (Cunningham Memorial)

Dam removed Unnamed dam, DEP No. 43-009; Cunningham Memorial dam, DEP No. 43-005

Date of removal Unnamed dam September 2004, Cunningham dam 2005

Linear feet restored 11,616 feet riparian habitat (2.2 miles), 5,808 feet instream habitat (1.1 miles) combined project total

Stream miles opened 22.7 miles combined project total

Species to benefit warmwater species, riparian species

Project Costs:

Growing Greener contribution \$52,500 toward design/engineering/implementation

Federal contribution \$20,000

State contribution \$46,000

Private contribution \$6,000 cash contributions toward site restoration/park development

Project Overview:

In September of 2004, the Unnamed dam (43-009) on Wolf Creek in Grove City, PA was removed. Built in 1885 to power a grist mill, the 5.5-foot high, 105-foot long dam no longer served its original purpose, contributed to local flooding and constituted a public safety hazard. A partnership of local businesses, conservation groups and local citizens were involved in the creation of a park in the former impoundment area. In 2005, the 12-foot high Cunningham Memorial dam in downtown Grove City was removed and its impoundment was also used to create a passive recreation area for local residents and for nearby Grove City College. Wolf Creek is a warmwater tributary to Slippery Rock Creek.



Photo 1. Cunningham Memorial dam (43-005), 2004.



Photo 2. Looking over the crest of Cunningham Memorial dam. 2004.



Photo 5. Upper (Unnamed) Wolf Creek dam (43-009), fall 2004.



Photo 6. Upper Wolf Creek dam impoundment, immediately following removal. Fall 2004.

CUNNINGHAM MEMORIAL DAM REMOVAL



Pre-Breach



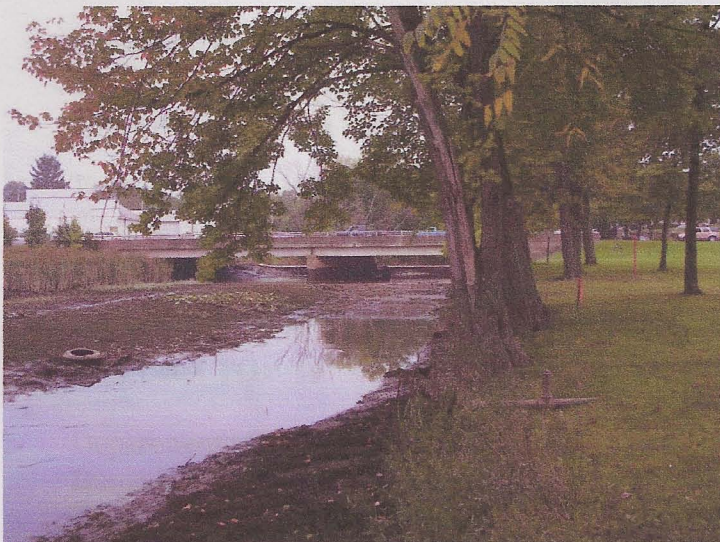
Breached



Post-Removal



Post-Removal



Backwater Channel After Dam Breech



Backwater Channel After One Full Growing Season

UPPER DAM REMOVAL



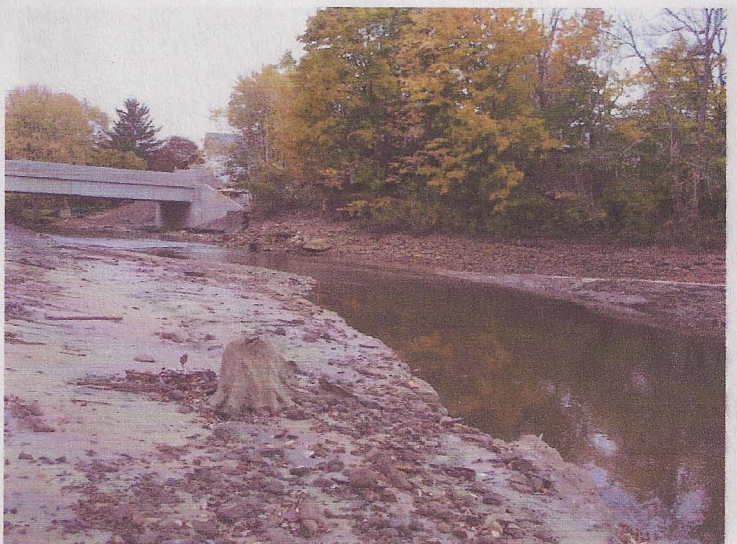
Pre-Breach



Breached



Post-Removal



Post-Removal



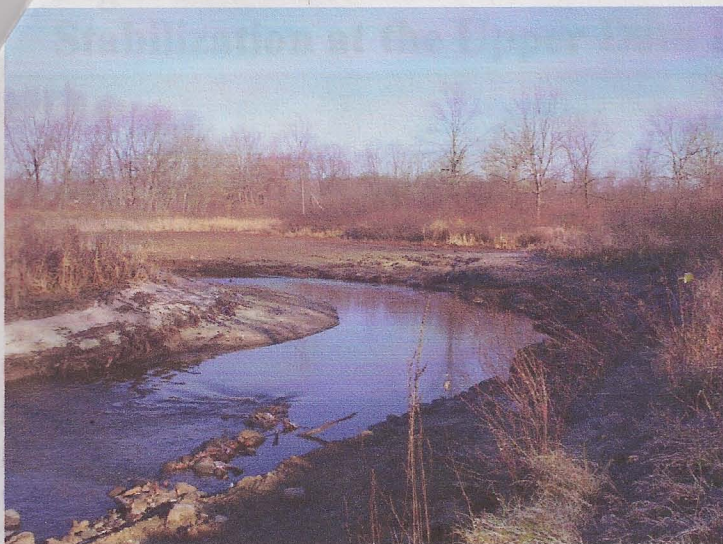
Dam Pool Pre-Breached



Dam Pool Post-Removal

UPPER DAM REMOVAL

Figure 1. Locations of Rootwad Cribwall used for Streambank Stabilization at the Upper



Dam Pool Two Months After Removal



Dam Pool Nearly One Year After Removal



Bank Erosion Below Observation Deck



Below Observation Deck After Installation of a Cribwall, Note Willow Live Stake in Foreground



Rootwad Placement



Overview of Observation Deck and Rootwads in Background

Figure 1. Locations of Rootwads and Cribwall used for Streambank Stabilization at the Upper Dam Project, Grove City, PA



Prepared for:
Grove City Borough

Prepared by:
Beran Environmental
Services, Inc.

Source: NAIP USDA-FSA Aerial Photography
Field Office (Mercer County)

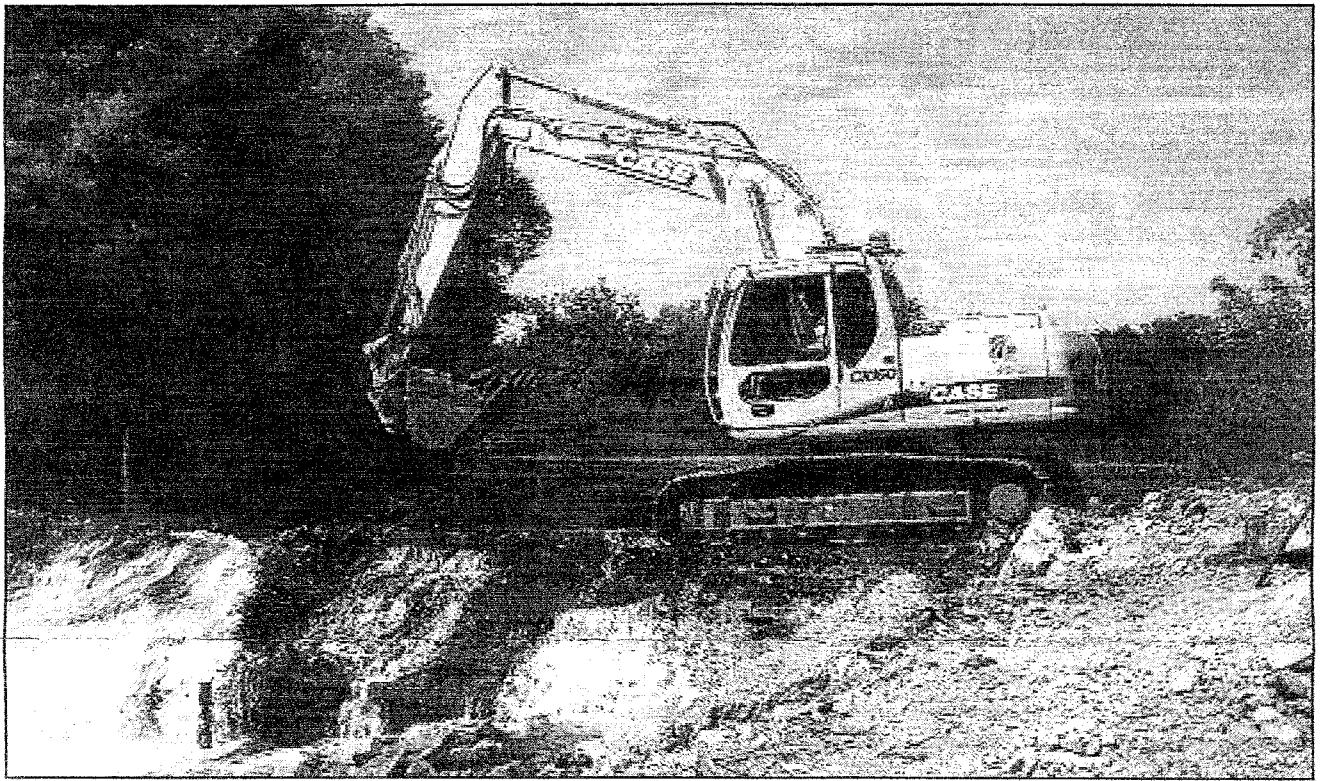
Scale

0 200 400 Feet



LEGEND: Location Approximate

- Rootwads
- Observation Deck
- Picnic table locations (proposed)
- Bluebird / Tree swallow boxes
- Trail
- Wetland Boardwalk (proposed)
- Wildflowers for butterflies (Spring 2006)
- Stream channel
- Fenced area used by fire department
- Parking lot
- Cribwall
- Former Dam

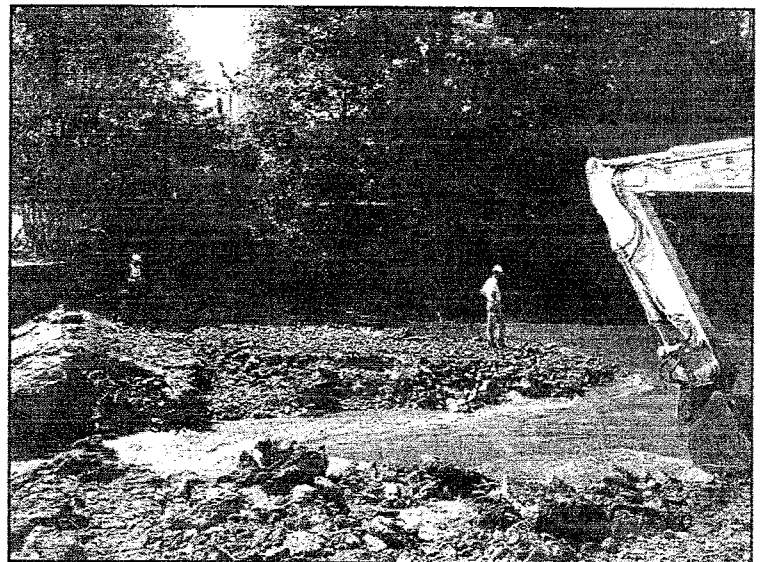


An excavator begins to breach the dam across Wolf Creek, slowly lowering the impounded water.
(See article below)

Looking for a good way to celebrate Earth Day?
Come join a community planting in Grove City on Saturday April 23rd!

Grove City Borough, Pine Township, Beran Environmental Services, Inc., and other community organizations and members will be planting over 5,000 trees and shrubs in the area that used to be the pool behind Grove City's "upper dam." PennDOT removed the dam in September of 2004 (see photos), and with it the safety hazard and ecological impediments it posed. Funded by the NRCS (Natural Resources Conservation Service) and American Rivers (national non-profit organization dedicated to protecting and restoring healthy natural rivers), the planting will consist of native trees and shrubs and is designed to provide habitat for woodcock and songbirds. The planting is part of the restoration initiative associated with the dam removal, as well as part of creating a community park on the land adjacent to the former dam pool, which is owned by Pine Township and the Grove City Borough.

The planting will begin at 8:00 am. Please meet at the Grove City Little League Fields' parking lot. The fields are located to the north of Grove City (actually in Pine Township), east of Wolf Creek, and can be accessed from State Route 208 – between the 208 bridge over Wolf Creek (recently replaced) and the Pine Township Municipal building. There is a sign announcing the fields, but it can be difficult to see. Please bring shovels, boots if you have them (hip boots and/or chest waders would be good for planting in some areas), and come prepared to get wet and muddy! Excessive rains just prior to the planned planting may cause its cancellation. For additional information, please contact Beran Environmental Services, Inc. at 724-735-2766.



BERAN ENVIRONMENTAL SERVICES, INC.

2322 W Sunbury Rd.
Boyers PA 16020
(724) 735-2766

May 26, 2005

Sara Nicholas
American Rivers
105 N Front Street, Suite 220
Harrisburg, PA 17101

Re: Upper Dam Contributions

Dear Sara,

The following is a list of in-kind and match funding that has been provided for the Upper Dam Restoration and Wolf Creek Park creation.

Community Clean-up day: 50 volunteer hours
Clearing trails: 150 volunteer hours
Observation Deck: \$3,178.22 from the Grove City Rotary Club
 \$1,500.00 from Alcoa
 \$250.00 from Beran Environmental Services, Inc.

WHIP grant: \$4,214.56
PA Fish & Boat match funding for WHIP grant: \$1,615.00
Provision of Wood Duck boxes: \$300.00 from Bob Beran
Construction and installation of Wood Duck boxes: 18 volunteer hours
Planting of former dam pool: 210 volunteer hours
Unquantified contributions include:

- PennDOT's removal
- Fish & Boat Commission's removal plan
- Mekis Construction Corporation's spreading of excess gravel for the parking lot
- Pine Township's use of equipment during the Community Clean-up

The Rotary Club is interested in contributing funds for the butterfly garden, and addition funding from the WHIP grant is likely to be used for the garden and the bank stabilization. I'll be sure to keep you updated.

Sincerely,



Anna McAninch, Environmental Biologist
Beran Environmental Services, Inc.

WOLF CREEK PARK SUMMARY

The Wolf Creek Park project involves turning an open space area adjacent to the former Grove City upper dam pool into a community park. Most of the area is owned by Pine Township, with a small portion being owned by Grove City Borough. In its entirety, the project includes:

- planting trees and shrubs in the areas daylighted by the removal of the dam
- creating a picnic area with picnic tables and trash receptacles
- planting several areas with wildflowers for butterfly habitat
- placement of bird nesting boxes
- building a simple platform to provide a scenic overlook of Wolf Creek
- stabilizing a section of eroding stream bank
- creating a walking trail, complete with foot bridges over drainages to Wolf Creek and boardwalks through/across two wetland areas.

This fall, we had a group of students from Grove City College and some members of the community help in cleaning much of the accumulated refuse from the former dam pool and future park area. In addition, with help from the Bluebird Society of Pennsylvania, three pair (6) of nesting boxes suitable for both bluebirds and tree swallows were erected on site. Shortly before Thanksgiving, the boy and girl scouts in the area helped to clear brush from the trail. Plans are to install three Wood Duck boxes this spring and later to build the bridges, boardwalks, observation deck, and picnic tables. Other plans for the spring include planting the newly daylighted areas and the wildflowers.

Figure 2: Plan Map Wolf Creek Park



Prepared for:
Pine Township
545 Barkeyville Rd
Grove City PA 16127

Prepared by:
Beran Environmental
Services, Inc.
2322 West Sunbury Rd
Boyers, PA 16020

Source: Grove City DOQ

Scale

0 500 1000 Feet



LEGEND: Location Approximate

- ★ Obsevation Deck
- Footbridge locations
- Picnic table locations
- Bluebird / Tree swallow boxes
- Trail
- Wetland Boardwalk
- Wildflowers for butterflies
- Stream bank stabilization area
- Stream channel
- Fenced area used by fire department
- Parking lot

Allied News

SERVING THE GROVE CITY, LAKEVIEW, MERCER, HARRISVILLE AND SLIPPERY ROCK AREAS

Since 1879

Wednesday,
March 30, 2005

Four sections, 32 pages

Volume 126, No. 26
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50 cents

Wet & wild

*Groups working
to beautify
Wolf Creek area*

By Tina Horner
Allied News Community Editor

When Wolf Creek's upper dam was removed last September and the lower dam was breached shortly after, the look of the creek changed dramatically.

The water level lowered, leaving muddy creek banks and exposing land that had been under water for 120 years when the pools above each dam drained.

This spring, Mother Nature will bring back "quite a bit of herbaceous vegetation," ac-

cording to Anna McAninch, environmental biologist with Beran Environmental, Harrisville. But she and a group of volunteers will give nature a helping hand April 23 when they plant native trees and shrubs, including willows, dogwoods, elderberries, oaks and beeches. Resources Conservation Service is funding the plants.

"It will be planted as a wilderness area," McAninch said. Through a cooperative effort between Grove City Borough and Pine Township, each of which owns parts of the pool area, and Beran, a park is being created north of the former upper dam on Pine Township property. It will include trails, which were put in last fall with the help of Boy Scouts and Girl Scouts, as well



Allied/T. Horner

On April 23, a group of volunteers led by Beran Environmental, Inc., will plant native shrubs and trees in what was a pool behind the Upper Dam on Wolf Creek. It is the first step in beautifying the area after the dam was removed last summer. The Lower Dam was breached in September and is scheduled for removal late this summer.

as a picnic area, footbridges, walk.

An observation deck funded by Alcoa and Grove City Rotary Club, a butterfly garden, bird boxes with the help of the Bluebird Society of Pennsylvania, a bat condo and a board-

the dam pool above the lower dam. Dr. Fred Brenner, professor of biology at Grove City College and a certified wildlife biologist, said the college hasn't discussed the full restoration project.

Grove City College owns

See **WILD**, page A-3

Wild

Groups working to beautify creek area

from page A-1

tion plan yet, and they won't be able to until the lower dam has been removed.

"We're in the process now of developing a stream beautification program for the stream system, but we can't move until the dam is removed and we see exactly where the water courses are going to be," Brenner said.

The current FEMA (Federal Emergency Management Agency) maps were developed after the dams were built, so once they're removed, the flood plain will need to be re-established, he said.

No work can be done with the dam until June 15 to avoid disturbing the water during spawning. McAninch said the lower dam will be removed in late summer or early fall. Some of the abutments will be left for stability and historical significance.

Although many of the changes in the creek are ones that are easily visible, the ecology of the creek isn't apparent to most people.

"(Removal of the dams) will restore the normal hydrology of the stream system and allow for the recolonization of the entire stream system, both by the fish and the macroinvertebrates, the small organisms that live in the stream system," Brenner said. "The dams prohibit the free passage of organisms within the stream."

Organisms move upstream, not downstream, according to Brenner. Ones that exist below the dam will be able to move upstream without the physical impediment of the dam.

The fish, as well, will be able to move upstream, McAninch said. "It's stocked below the dam, and those trout will be able to move upstream."

Cody Salmon, also an environmental biologist with Beran, said removing the dams allows for different fish to inhabit different parts of the

creek.

"One of the important ones is smallmouth bass. It's more of a flowing water fish. (Removing the dam) will restore (the creek) above the dam to have more smallmouth bass and smaller fish like darters and sculpins. Those are ripple species that are found in most streams around here that would not have been found behind the dam," Salmon said.

Whether the changes are apparent to the naked eye or not, McAninch said removing the dams is good for the creek. It would have been harmful, in a way, to leave them in place.

"You've totally changed how the stream behaves," she said. "But it heals itself naturally. It's quite different. It used to have a stagnant pool. Now it's a flowing stream."

Volunteers are needed for the April 23 planting. Anyone wanting to help is asked to bring a shovel and boots if they have them and meet at 8 a.m. in the parking lot of the Grove City Little League Fields.

See BUMPY, page

Mother Earth mud



Suzanne Bobosky/Herald

Holly Martinchek isn't afraid to get knee-deep in mud while planting live stakes Saturday at the former upper dam site on Wolf Creek in Pine Township. In observance of Earth Day 2005, Grove City area residents planted about 5,400 plants, bought with a \$10,000 grant from the U.S. Dept. of Agriculture's Wildlife Habitat and Improvement program.

BERAN ENVIRONMENTAL SERVICES, INC.

2322 W Sunbury Rd.
Boyers PA 16020
(724) 735-2766

January 31, 2005

Mr. Farren
Grove City Borough Manager
PO Box 110
Grove City PA 16127

Mr. Farren:

Enclosed please find a corrected Section 1905-A and Acts 67 and 68 required notification regarding the removal of the lower dam on Wolf Creek. The first notification was dated July 14, 2004 and named American Rivers as the applicant for the necessary permit waiver. It has become evident that Grove City Borough, as the owner of the dam to be removed, is the more appropriate applicant. Only information pertaining to this change has been altered in the enclosed package. The dam was breached over the summer by the removal of a metal plate that had been installed in the dam for this purpose. If you have any questions, please feel free to contact the office.

Sincerely,



Anna McAninch, Environmental Biologist
Beran Environmental, Inc.

Enclosure: Notification

Cc: Sara Nicholas, American Rivers
File

BERAN ENVIRONMENTAL SERVICES, INC.

2322 W Sunbury Rd.
Boyers PA 16020
(724) 735-2766

January 31, 2005

Mr. Farren
Grove City Borough Manager
PO Box 110
Grove City PA 16127

Mr. Farren:

The purpose of this notice is to inform you of our intent to submit a request for a permit waiver [105.12 (a)(16)] to the Pennsylvania Department of Environmental Protection (DEP) for the following:

Project Name: Main Street (Grove City) Dam Removal
Project Description: Removal of a lowhead dam from Wolf Creek; see enclosed Project Summary
Applicant Name: American Rivers
Applicant Contact: Sara Nicholas
105 N Front St
Harrisburg PA 17101
Site Location: Immediately downstream of the State Highway 58 bridge over Wolf Creek.
Municipality/County: Grove City, Mercer County

Section 1905-A of the Commonwealth Administration Code, as amended by Act 14, requires that each applicant for a DEP permit must give written notice to the municipality(ies) and the county(ies) in which the permitted activity is located. The written notices shall be received by the municipality(ies) and county(ies) at least 30 days before the Department may issue or deny the permit.

“Acts 67 and 68, which amended the Municipalities Planning Code to support sound land use practices and planning efforts, direct state agencies to consider comprehensive plans and zoning ordinances when reviewing applications for permitting of facilities or infrastructure, and specify that state agencies may rely upon comprehensive plans and zoning ordinances under certain conditions as described in Sections 619.2 and 1105 of the Municipalities Planning Code.

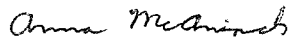
Enclosed is a General Information Form (GIF) we have completed for this project. DEP invites you to review the attached GIF and comment on the land use aspects of this project; please be specific to DEP when identifying any areas of conflict. If you wish to submit comments for DEP to consider in a land use review of this project, you must respond within 30 days to the DEP regional office listed below. If there are no land use comments received by the end of the comment period, DEP will assume that there are no substantive land use conflicts and proceed with the normal application review process.”

Please submit any comments concerning this project within 30 days from date of receipt of this letter to the DEP Division of Dam Safety at:

Department of Environmental Protection
Division of Dam Safety
Attn: Vince Humenay
PO Box 8460
Harrisburg PA 17105-8460

For more information about this land use review process, please visit www.dep.state.pa.us
(directLINK: Land Use Reviews).

Sincerely,



Anna McAninch, Environmental Biologist
Beran Environmental, Inc.

Enclosure(s): General Information Form
Project Summary
Project Location Map

Cc: Sara Nicholas, American Rivers
File