



**MONASTERY RUN PROJECT**  
*Federal Office of Surface Mining  
2000 AML Reclamation Award  
Nomination Information*



**Submitted By:**

Pennsylvania Dept. of Environmental Protection, Bureau of Abandoned Mine Reclamation

**Date Submitted :**

March 2000

**Project Name:**

Monastery Run Project (Consisting of five separate projects completed through the cooperative efforts of all of the members of the Loyalhanna Creek Mine Drainage Coalition)

**Project Numbers:**

A Partnership Effort in Watershed Restoration including OSM funded Project Nos. AMD 65(2533)102.1, Monastery Run, and OSM 65(1776)101.1, Beatty Road

**Project Location:**

The project is located in Unity Township, Westmoreland County, 2 miles southwest of the small community of Latrobe, PA., along State Route 1045 (Beatty Road) adjacent to St. Vincent College.

**Team Members Submitting Nomination:**

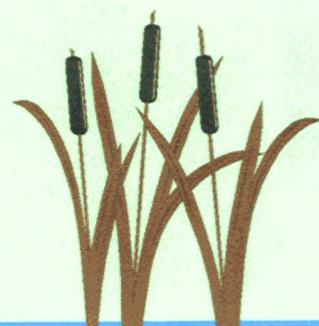
**Darryl J. Audia**, Real Estate Appraiser, Easement Section, Ebensburg District Office  
**Dean R. Baker**, Planning Section Chief, Ebensburg District Office  
**Eric E. Cavazza, P.E.**, Acting District Engineer, Ebensburg District Office  
**Roderick A. Fletcher, P.E.**, Director, Bureau of Abandoned Mine Reclamation  
**Jeffrey A. King**, Draftsman-Designer, Ebensburg District Office  
**J. Paul Linnan**, Chief of Field Operations, Bureau of Abandoned Mine Reclamation  
**Thomas C. Malesky, P.E.**, Acting Construction Section Chief, Ebensburg District Office  
**Ford J. McCahren**, Environmental Project Inspector, Ebensburg District Office  
**Pamela J. Milavec**, AMD Set-Aside Program Coordinator, Ebensburg District Office  
**Earl F. Ropp**, Environmental Project Inspector, Ebensburg District Office  
**Dan Sammarco, P.E.**, Acting Design Section Chief, Ebensburg District Office  
**Charles Schenkemeyer**, Construction Project Engineer, Ebensburg District Office  
**P. J. Shah, P.E.**, Mine Drainage Treatment Facility O&M Section Chief, Ebensburg District Office  
**Mark T. Sossong**, Design Engineer, Ebensburg District Office

**Team Address:**

Bureau of Abandoned Mine Reclamation, Ebensburg District Office  
P. O. Box 149, 122 South Center Street, Ebensburg, PA 15931  
Telephone: (814) 472-1800 Fax: (814) 472-1839

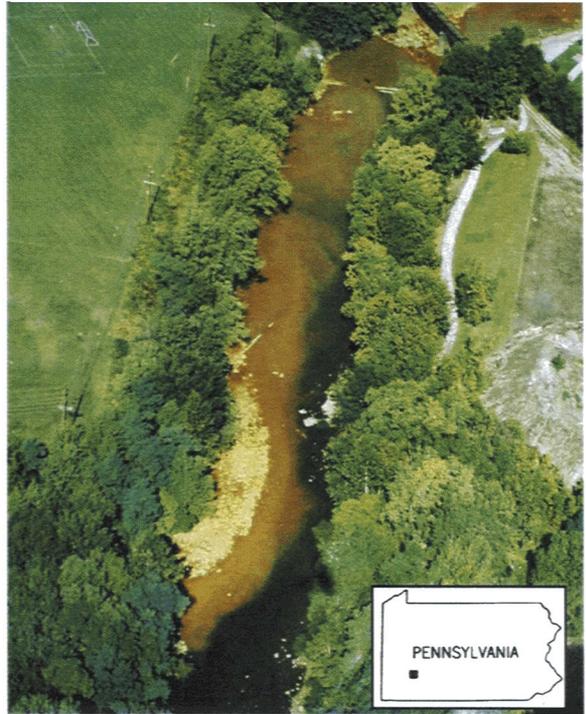
**Construction Information:**

Construction information for the various projects is contained within the site specific fact sheets. The fact sheets are included within this nomination.



## History and Background

**M**onastery Run is located in Westmoreland County, PA, and is within the Loyalhanna Creek drainage system. Monastery Run is contaminated by abandoned mine drainage (AMD) entering from Fourmile Run, a major tributary. Monastery Run provides the first significant source of AMD to Loyalhanna Creek, near the Borough of Latrobe. Upstream of this point, Loyalhanna Creek, according to the Pennsylvania Fish Commission, is one of the most heavily fished stretches of stream within the state of Pennsylvania, and provides recreational benefits to a moderately populated area less than 40 miles from the City of Pittsburgh. Downstream of Monastery Run, Loyalhanna Creek is severely degraded by iron precipitate coating the stream bottom from Monastery Run and adjacent discharges. About 2 miles further downstream, mine drainage enters from two other tributaries, adding to the degradation of Loyalhanna Creek downstream to Loyalhanna Lake. The devastating effects of the mine drainage adversely impact the water quality for a total distance of approximately 17 miles within Loyalhanna Creek, 1 mile within Fourmile Run, and 1 mile within Monastery Run.



*Confluence of Monastery Run and the Loyalhanna Creek just upstream of Latrobe, PA. (WCCD - 1993)*



*Loyalhanna Creek as it flows through downtown Latrobe. Note the impact of the AMD from Monastery Run. (WCCD - 1993)*

The Monastery Run Project area included the Benedictine Society, Westmoreland and Fayette Coal Company, Mount Pleasant Coke Company, Latrobe Coal Company and Mount Pleasant By-Product Coal Company.

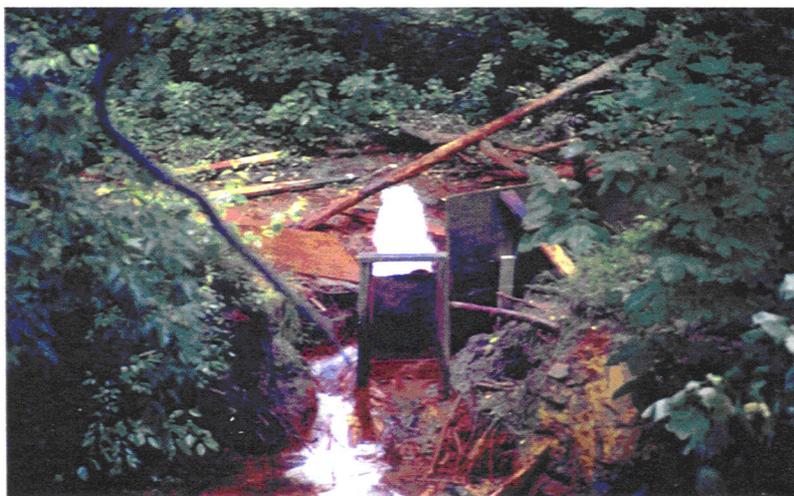
The water in the mined out Pittsburgh Coal seam under the project area is hydrologically connected to a very large mine pool located in the Latrobe Syncline. The majority of the mine workings located throughout the syncline are flooded. Water infiltrating into the abandoned mine workings from groundwater floods the voids, due to the synclinal nature of the seam. The hydraulic head of the mine pool in the flooded coal seam is greater than the hydraulic head of the

overlying aquifer, creating upward pressure and subsequent flow of mine drainage into the groundwater table. This phenomenon is known as groundwater mounding. Groundwater mounding has caused the discharge of the mine drainage contaminated groundwater at the surface via fractures, open boreholes, and subsidence holes. These discharges allowed for the development of AMD fed wetlands along Fourmile Run following the cessation of mining.

Local efforts to address the AMD problems into Loyalhanna Creek were started in the early 1990's, with the formation of a group that eventually became known as the "Loyalhanna Creek Mine Drainage Coalition". This very active and dynamic group consisted of several local organizations, including the Westmoreland County Conservation District, the Loyalhanna Creek Watershed Association, the Katherine Mabis McKenna Foundation, many local businesses and individuals, and St. Vincent College, which owned much of the land where the AMD surfaced. The local groups were assisted by state agencies, including the DEP's Bureau of Abandoned Mine Reclamation (BAMR), the Bureau of Watershed Conservation, and the Greensburg District Mining Office. Federal agencies involved include the former Bureau of Mines (now under the Department of Energy), the Natural Resources Conservation Service (NRCS), and the Office of Surface Mining. The Coalition decided to take a "top down" approach to tackling the water quality problems in Loyalhanna Creek, meaning that the upstream discharges would be addressed first, with the focus moving downstream upon the successful abatement/treatment of the Monastery Run discharges.

The Coalition formed two separate committees to keep momentum going in this effort. The Steering Committee provided the organizational support, kept the local citizens informed and involved, and looked for funding sources and other assistance in addressing the AMD problems. The Technical Needs Committee grappled with the complex technical issues involved in collecting and treating the AMD and evaluating impacts to the watershed. Three major funding sources eventually emerged: the NRCS, DEP's Bureau of Abandoned Mine Reclamation, and EPA's 319 Nonpoint Source Program, which is administered by DEP's Bureau of Watershed Conservation. The NRCS, using the P. L. 566 Watershed Protection Program, would provide 50% of construction funds for five project sites, while the two DEP agencies would provide 50% match. Private Foundations also contributed financial assistance.

The technical committee identified five primary project sites along Fourmile Run to address. The sites were identified as the Beatty Road Subsidence Area, Wetland No.1, Wetland No.2, Wetland No.3, and the 'bubbler'. As the project developed, the treatment of the discharge known as the 'bubbler' was incorporated into the wetland treatment systems identified as Wetland No.2 and Wetland No.3. The location of these project sites is identified on the, General Watershed Map included on the page of the nomination.

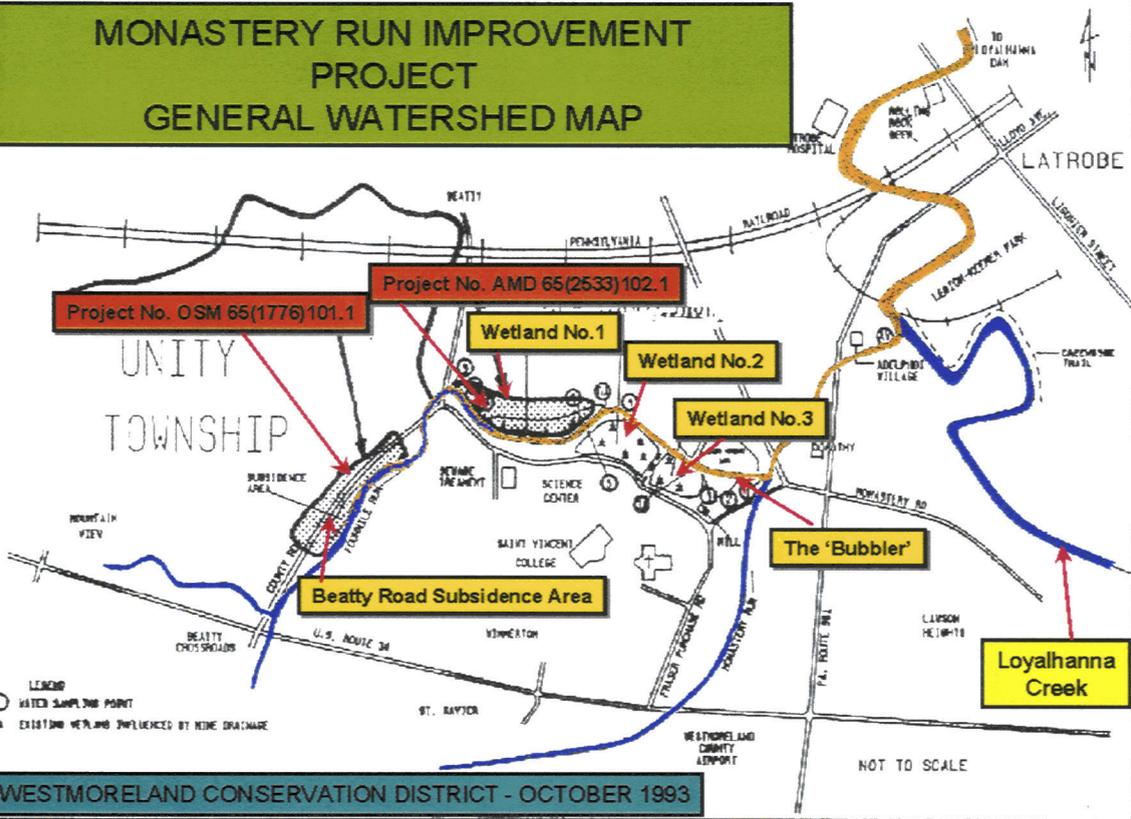


*The "bubbler" mine drainage discharge.*

### **Characterizing the Discharges and the Construction Sites**

In some respects, the AMD problem in Monastery Run was relatively simple to address. The discharges were primarily alkaline, with iron being the only contaminant of any significance. This allowed for a much simpler design for the treatment of the discharges using passive facilities. In addition, four of the five project sites were on property owned by St. Vincent

# MONASTERY RUN IMPROVEMENT PROJECT GENERAL WATERSHED MAP



College, whose staff and administration were very enthusiastic partners in this endeavor. These same four project sites had ample area available to construct passive treatment facilities.

However, there remained several complex technical issues to overcome. The area to be used for construction consisted of wetlands that had developed due to the discharge of AMD into low areas along Fourmile Run. The volume of some of the discharges fluctuated substantially during project planning. In particular, one of the discharges reached a high of 1850 gpm during high flow conditions, while this same discharge would stop flowing under low flow conditions. Treatment facilities needed to be designed to deal with these extremes. Another significant concern was capturing all the contaminated flow in the constructed facilities. Discharges surfaced as diffuse seeps in existing wetlands, and it was believed that base flow into Monastery Run was also contaminated. Also, one discharge had to be piped upslope to a treatment facility using the head on the artesian discharge to move the water. Careful analyses were needed to determine the feasibility of collecting the AMD and getting it to treatment facilities.

Flow monitoring and water quality analyses of all of the discharges were performed during 1995 and 1996. The data gathered during this period was utilized to determine treatment system design parameters. The discharges were determined to have a total iron content of between 70 and 100 mg/l. For Wetland #1, the design flow rate was determined to be 660 gpm. At average flows and iron loadings, the discharges to be treated carry 500-600 lbs/day of iron.

### Description of Reclamation

A description of the reclamation activities for the Beatty Road Subsidence Control Project, the Wetland No.2 AMD treatment system, the Wetland No.3 AMD treatment system and the treatment of the “bubbler” is included on the project specific fact sheets included with this nomination.

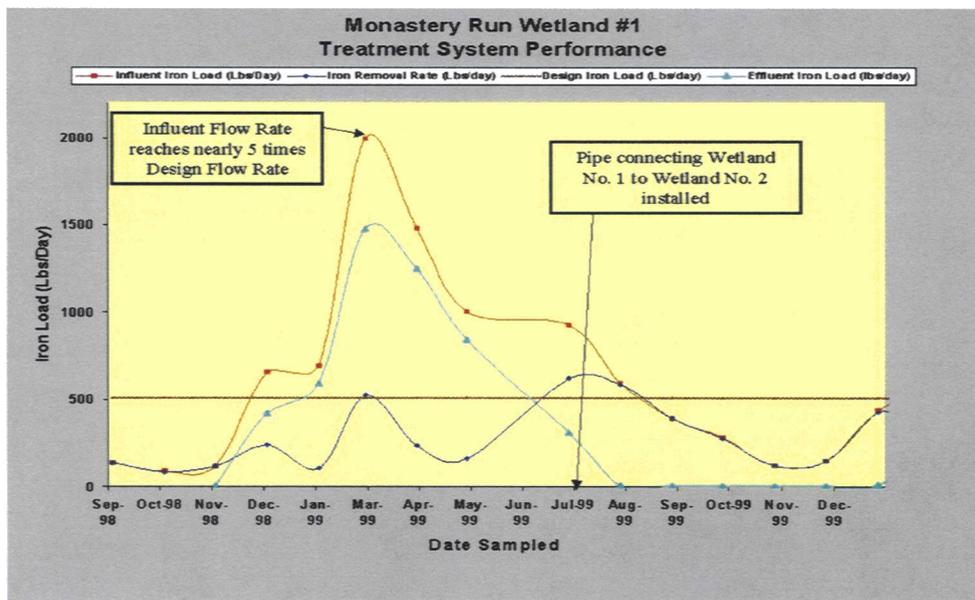
A description of the design procedure and reclamation activities for Wetland No.1, Project No. AMD 65(2533)102.1, will be outlined and discussed in the following paragraphs of the nomination. The techniques employed and the results achieved for this site closely parallel the

techniques, procedures and results for the other wetland treatment systems constructed as part of the Monastery Run Project.

Utilizing a model developed by the United States Bureau of Mines (USBM) and other wetland design references, a detailed design of a wetland treatment system for the Wetland No.1, Project No. AMD 65(2533)102.1, was developed. For net alkaline discharges, the USBM model recommends an aerobic wetland treatment system. Maximizing the available area within the project work area, four aerobic wetland treatment cells were laid out with a total wetland surface area of 9.1 acres. The USBM model recommended a minimum area of 7.5 acres for the flow and load conditions at this site. Major items of work required to construct the wetland treatment system include the construction of a permanent access road to the site, erosion and sedimentation control, clearing and grubbing, unclassified excavation of the wetland treatment cells, utility relocations, external embankment construction, internal dike construction, construction of flow control structures, placement of wetland substrate, slope protection, diversion and care of water, and revegetation of areas disturbed during construction of the project. The actual ground work consisted of excavating an existing wetlands created by the ten mine drainage discharges and replacing it with a man made wetlands capable of increasing retention time and aeration prior to discharge into Fourmile Run. The increased retention time was created using a series of cells, internal dike and wetlands plants to slow the flow. Aeration was achieved through the flow over the weirs between the cells.

### Post Construction Results

Since the three wetland treatment systems were constructed, the systems have performed with extraordinary results. Some operational problems have come to light during the first year of operation of the facilities with the most serious problem being that significantly more AMD is entering the wetlands than the systems were designed to treat. This has primarily affected the initial performance of Wetland #1 and Wetland #2. For reasons unknown, in the spring of 1999, the influent flow rate in Wetland #1 reached nearly 3,500 gpm or five times the design flow rate. In order to provide for better treatment performance, Wetland #1 and Wetland #2 were connected together via an inverted siphon that carries the effluent from Wetland #1 under Fourmile Run and discharges it into Wetland #2. This has yielded amazing results, as the **discharge** from the outlet of Wetland #2 has consistently had a total iron concentration of **less than 1mg/l**. The three treatment systems combined are removing approximately 1,000 lbs. of iron each and every day, which is having a dramatic impact on the sediment loading from Monastery Run to the Loyalhanna Creek. This is readily apparent and can be visually identified on the before and after photographs of the confluence of the two streams that are included in this nomination.



## Efficiency and Innovation

The four-celled wetlands that were designed and constructed required detailed monitoring of the quality, quantity, elevation, and location of the discharges within the project area. This information was critical in the design in order to maximize the retention time within the project and to reduce construction costs. Retention time is created using the series of four cells within the project area. Within each cell is a series of internal dikes that cause the water to flow in a serpentine pattern. The water flows in from one cell to the next via a concrete flow control structure. This structure contains movable stop logs that can be added or removed by raising or lowering the water level within the cell. The top stop log is equipped with a rectangular weir. The flow across each of these rectangular weirs between the cells allows for the necessary aeration. By using the four cells to lower the elevation of the water through a controlled stepping effect, the height of the external dikes could also be stepped. This simplistic gravity approach, rather than a series of pumps and mechanical devices, significantly reduced the overall construction cost.

## Project Benefits

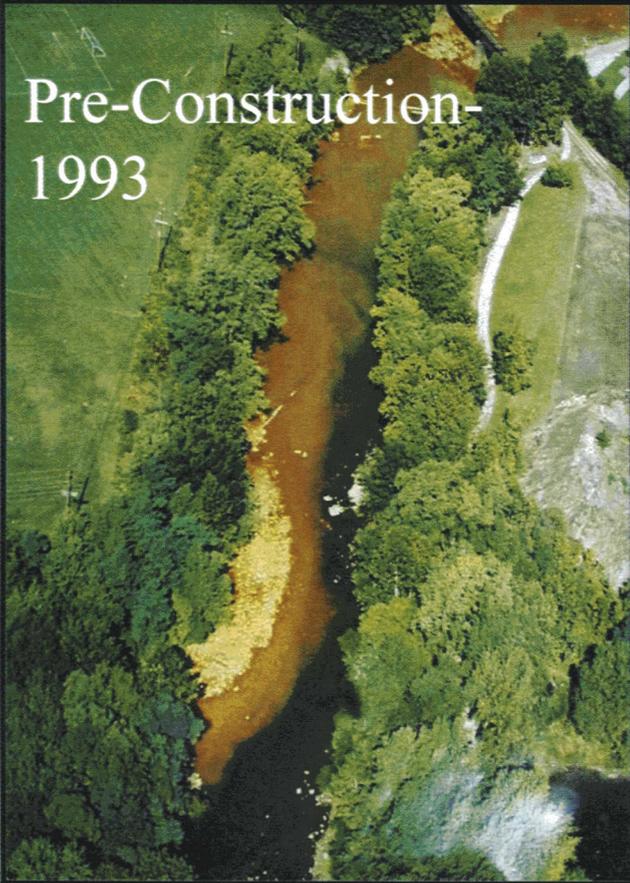
The benefits from this project are many, and some have been previously mentioned. This is a summary of the benefits and accomplishments of this project:

1. Significantly reduced iron discharge to Fourmile Run, Monastery Run, and Loyalhanna Creek. This is a boon for the aquatic life, fishermen, recreation, and the aesthetics of the streams. **(The three passive wetland treatment systems are removing approximately 1,000 lbs/day of iron from the AMD. This equates to over 180 tons per year of material which is not being deposited as orange, life-smothering precipitate in Loyalhanna Creek each year.)**
2. Created a controlled study laboratory for academia and St. Vincent College. The College conducts an annual Summer Institute in Watershed Restoration which studies the effects of the treatment systems and the recovery of the receiving streams. The College also holds an annual Monastery Run Project Symposium in November of each year to present research results and to update the local community on the success and progress of the project.
3. Proved the feasibility of a passive aerobic wetlands treatment system for future use.
4. The wetlands themselves are providing significant wildlife habitat, as ducks, geese and muskrats are extensively using the constructed wetlands.
5. Demonstrated what can be accomplished using the team approach.
6. Wetlands are being used to research 'resource recovery' for the iron oxide contained within the sludge deposited in the treatment systems.
7. The Latrobe High School has gotten students involved in monitoring this and other nearby watersheds.
8. The Loyalhanna Lake, a US Army Corps of Engineers dam, has shown an improvement in water quality, and, as a result, the USACOE is studying Saxman Run, the next AMD impacted stream downstream of Monastery Run.
9. This project site was showcased in two field trips during the 1999 National Association of AML Programs annual conference held at Seven Springs, PA in August of 1999.
10. Most importantly, the Monastery Run Project developed a working model for future comprehensive watershed organizations to pattern themselves after.

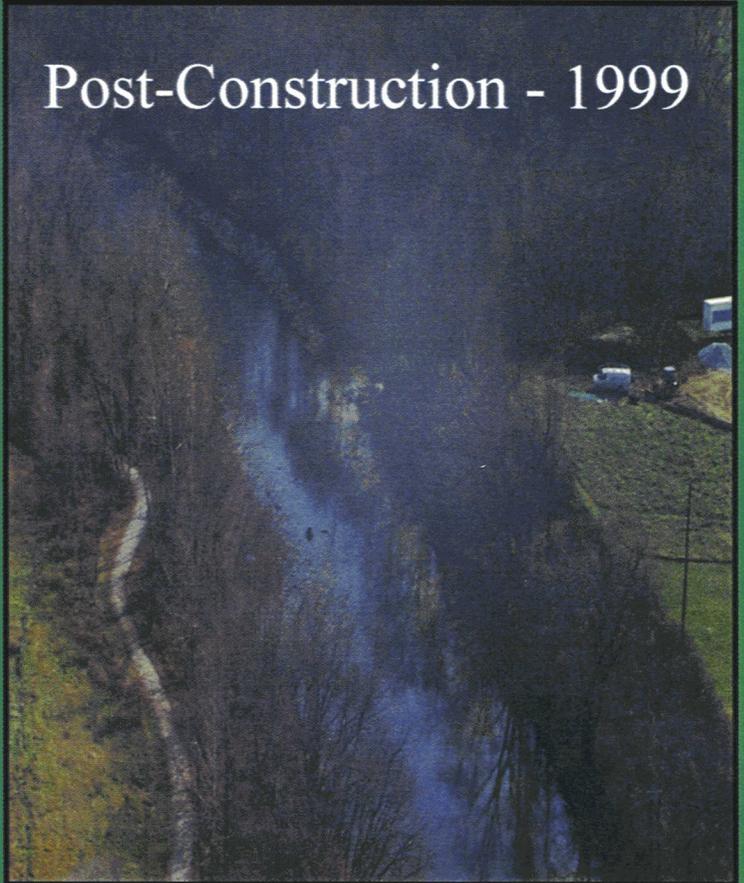
This project showed the dramatic success that can be obtained by forming a public-private partnership between local, state, and federal agencies, local educational institutions, and other local organizations and individuals. The success of the project using this approach has provided a model to be used in future watershed restoration efforts both within the Commonwealth of Pennsylvania and the rest of the nation.

# The Confluence of Monastery Run and the Loyalhanna Creek

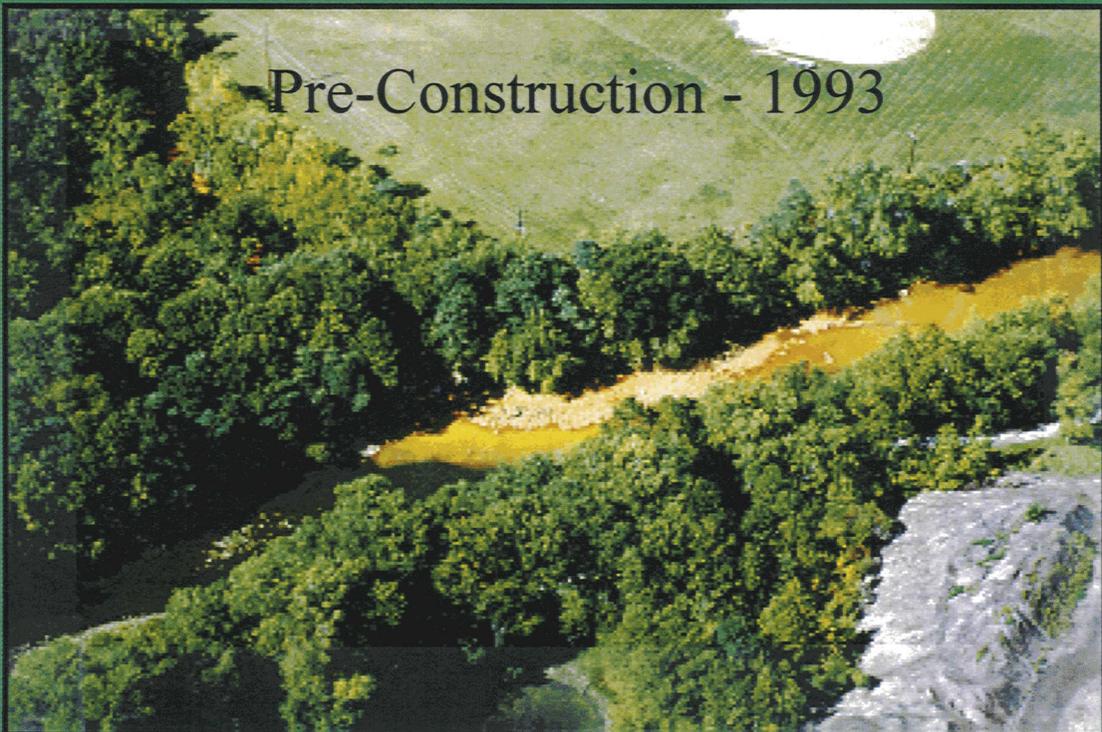
Pre-Construction-  
1993



Post-Construction - 1999



Pre-Construction - 1993



# Project Fact Sheets - Wetland No. 1 & Wetland No. 2

## Dedication

### Wetland No. 1



*Ceremonial Raising of Stop Log by Federal, State and Local Representatives*

A dedication ceremony was held for BAMR's Monastery Run AMD Treatment Project on November 12, 1998. The dedication ceremony was part of the Sixth Annual Monastery Run Project Symposium held at Saint Vincent College in Latrobe. The dedication ceremony, conducted by C. H. Meyers, District Engineer, Ebensburg BAMR, featured guest speakers, Robert Dolence (Deputy Secretary of MRM), Kathy Karpan (Director of OSM) and Congressman John Murtha. Following brief remarks from the speakers, a stop log was lifted by Congressman Murtha and Brother Norman Hipps, Provost, St. Vincent College, to ceremoniously start water flowing through the treatment system. A second dedication ceremony was held later at an adjacent site (Wetland No.2) which was designed and funded by BAMR partner, the Natural Resource Conservation Service (NRCS).

BAMR's Monastery Run AMD Treatment Project, Contract No. AMD 65(2533)102.1, is one of three similar projects constructed to improve the water quality in Fourmile Run, Monastery Run and the Loyalhanna Creek. The BAMR project is an 8.5 acre wetland treatment system which treats a high iron, net alkaline discharge with an average flow of 660 gpm. According to initial water quality testing, the treatment system is successfully raising the water quality to Pennsylvania effluent standards. The project was constructed by Casselman Enterprises, Inc., of Somerset who's original bid price was \$461,066.00. The Contract was awarded to Casselman Enterprises, Inc., on March 18, 1997 and expired on November 23, 1998.

BAMR's C. H. Meyers, Ebensburg District Engineer, presented Brother Norman Hipps eight wood duck boxes to be placed at the various treatment systems. The wood duck nest boxes were donated to BAMR from the High Point Chapter of Ducks Unlimited through Anthony Marich, Jr.



*Presentation of Wildlife Habitat Enhancement (Duck Box), From DEP Representative, C. H. Meyers, to Loyalhanna Mine Drainage Coalition Representative, Br. Norman W. Hipps*



## FACT SHEET

### Loyalhanna Creek Mine Drainage Coalition Monastery Run Project

#### Wetland #2

Wetland #2, along the South side of Four Mile Run, was constructed in the summer of 1998 to treat abandoned mine drainage which discharges within the existing cattail marsh.

Two large cells were built within the existing marsh providing for aeration and increased detention time. The pipeline, which carries water from "The Bubbler", was extended to Wetland #2 in the event additional treatment may be necessary.

Project Design: USDA Natural Resources Conservation Service designed the wetland in cooperation with the landowner, Wimmer Corp.

Funds for Construction and Design: Funding from the Watershed Protection and Flood Prevention Act (PL 83-566) program, administered by USDA Natural Resources Conservation Service.

Wetland Size: 7.5 acres

Contractor: Hutchinson Excavating  
Armagh, PA

Contract Administration: USDA, Natural Resources Conservation Service

Construction Cost: \$162,000

Dedication: November 12, 1998

Operation and Maintenance: St. Vincent College/Wimmer Corp.

#### Special Features of Wetland #2:

- ❖ A 2400 foot exterior dike is set back from the stream allowing a riparian buffer zone to remain.
- ❖ Plantings for wildlife habitat and natural enhancement were provided.
- ❖ A bentonite slurry cut-off trench was installed under the perimeter dike to prevent subsurface water flow between wetland and stream.
- ❖ Water levels in each of the two cells can be regulated.



Wetland No.2 (center)

# Project Fact Sheets - Wetland No. 3 & Beatty Road Project

## FACT SHEET

### *Loyalhanna Creek Mine Drainage Coalition Monastery Run Project*

#### *Wetland #3 and Mesocosm*

Wetland #3, behind the St. Vincent Grist Mill, was constructed during the summer of 1997 as a passive treatment wetland system to treat abandoned mine drainage.

It primarily treats water from the artesian discharge, which was known as "The Bubbler." Using the head pressure in the underground mine complex, the mine water from "The Bubbler" is piped upstream 1600 feet to a suitable location for treatment. The passive treatment wetlands system allows for aeration and detention time sufficient to reduce the iron content from about 90 mg/L to about 1 mg/L.

A Mesocosm (outdoor laboratory) was constructed consisting of four equally size cells where field research on mine water treatment may occur. Water can be controlled and monitored to research alternative field treatments. Mine water from a nearby discharge or "The Bubbler" water can be used.

**Project Design:** USDA Natural Resources Conservation Service designed Wetland #3 under a cooperative arrangement with St. Vincent College. The Mesocosm was designed by EBS Consultant, Terry Rightnour.

**Funds for Construction & Design:** Major funding from an EPA 319 grant, to St. Vincent College through PA DEP. Supplemental Funding from Heinz Foundation, McKenna Foundation, and NRCS. Allegheny Power has recently supplied electric service to the mesocosm.

**Wetland Size:** 3.11 acres

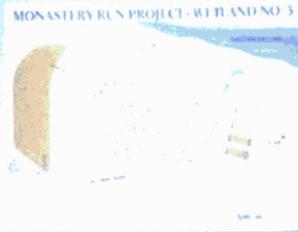
**Contractor:** Stoy Excavating  
Somerset, PA

**Contract Administration:** St. Vincent College in cooperation with NRCS.

**Construction Cost:** \$220,000

**Dedicated:** August, 1997

**Operation and Maintenance:** St. Vincent College/Wimmer Corp.



Schematic Drawing

#### **Special Features of Wetland #3:**

- ❖ Maintained an undisturbed 50-foot riparian buffer zone during construction, which has been enhanced by additional plantings.
- ❖ Allowed portions of cattail marsh to remain throughout construction to support biological life.
- ❖ A bentonite slurry cut-off trench was installed under the exterior dike to prevent subsurface flow of water between wetlands and stream.
- ❖ Designed to allow different water depths and flow patterns between cells.



Wetland No. 3



## Fact Sheet

### PROJECT OSM 65(1776)101.1 Beatty Road Mine Subsidence Control Project

- **GOAL:** To Increase Support Under Beatty Road and the Fourmile Run Stream Channel to Minimize Future Mine Subsidence Problems
- **Contract Awarded:** Mid-February, 1996 (approx) FEB 22, 1996
- **Start of Construction:** Spring 1996 (anticipated) MAY 22, 1996
- **SUMMARY OF PROJECT DESIGN**
  - \* 750 lf of Six Inch (6") Drilling & Casing
  - \* Preparation of 25 Injection Sites
  - \* Injection of approx. 10,000 tons of slurry
    - 7,700 tons of flyash
    - 1,000 tons of sand
    - 1,100 tons of cement (23,100 bags)
- **Estimated Construction Cost:** approx. \$300,000 (\$196,812.85) FINAL OCT. 29, 1996
- **A Follow-up Project** to surface seal the open subsidence pits will be completed by the PA DEP/ BAMR's Ebsburg District Office in-house Construction Crew following the completion of the Flushing Project.  
(estimated completion - Fall, 1996) (SPRING 1997)

**CONTRACTOR: ELES BROS. INC.**  
(756 L.F.)  
(23 HOLES)  
(5,102 TONS)  
(4,556 TONS)  
(0 TONS)  
( 630 TONS - 13,414 BAGS)



Mixing Plant for Injection Material

# ***Pre-Construction***

*Wetland No.1*



***Discharge from original wetlands directly into Fourmile Run***



***Weir constructed to monitor AMD Discharge and determine design parameters for treatment system***

# ***Construction***

*Wetland No.1*



***External Dike Construction  
Showing placement of compacted clay  
to prevent subsurface flow to Fourmile Run***



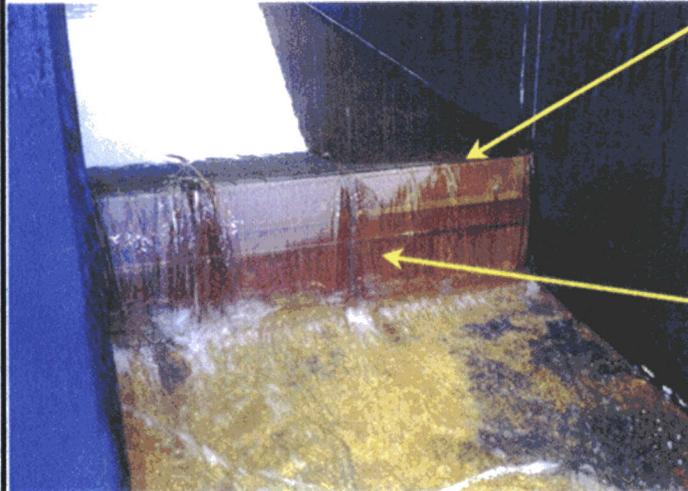
***Treatment Cell #3 Construction  
Showing excavation near artesian flow***

# Post-Construction

Wetland No. 1



System Retrofit - Summer 1999  
Inverted Siphon Connecting  
Wetland #1 to Wetland #2



Sharp-Crested  
Weir on top of  
Stop Logs  
allows for  
Accurate Flow  
Measurements

Note: 6 inch  
Pre-fabricated  
Logs are added  
or subtracted to  
raise or lower the  
water level and  
provide for  
aeration of the  
AMD

Cell #2 flow structure  
Showing aeration of AMD water

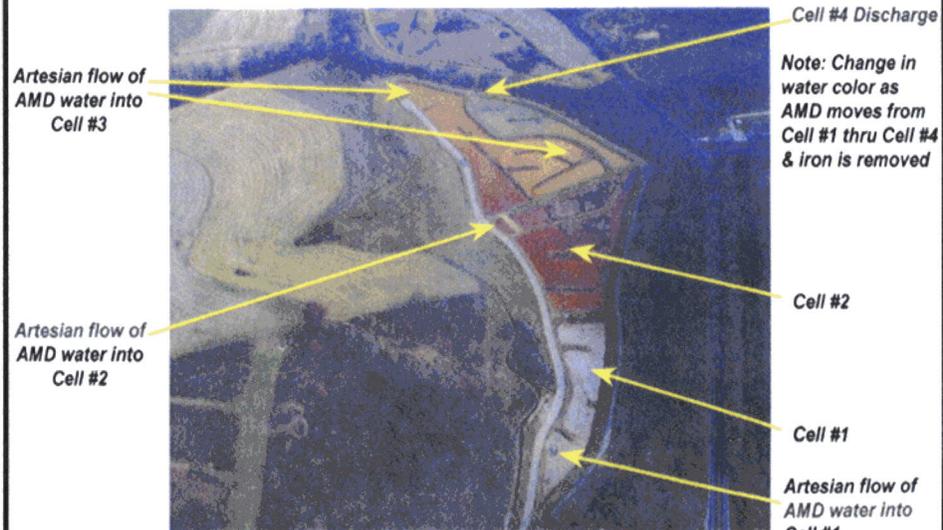
# Post-Construction

Wetland No. 1



Aerial Photograph - Fall 1998  
Showing AMD Treatment Cells

(Photo Courtesy of C. R. Greene, Bureau of District Mining Operations)



Artesian flow of  
AMD water into  
Cell #3

Artesian flow of  
AMD water into  
Cell #2

Cell #4 Discharge

Note: Change in  
water color as  
AMD moves from  
Cell #1 thru Cell #4  
& iron is removed

Cell #2

Cell #1

Artesian flow of  
AMD water into  
Cell #1

Aerial Photograph - Fall 1999  
Showing Operating Treatment System

(Photo Courtesy of C. R. Greene, Bureau of District Mining Operations)

## SAINT VINCENT

WINTER 1999



### SAINT VINCENT

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**The Cover**  
Artist Jo Butz of Ligonier works on site at the Monastery Run Project as part of a unique art project that resulted in the exhibit, Creative View of Monastery Run. Story page 4.

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## Monastery Run lauded at dedication, celebrated in 'Creative View' art show

With strong praise for the power of local grassroots efforts, representatives of state and federal agencies, along with Saint Vincent College officials and members of the Loyalhanna Creek Mine Drainage Coalition, dedicated the final two wetlands of the Monastery Run Project on Nov. 12.

Against the backdrop of a beautiful fall day, officials looked out over the trio of wetlands now covering about 20 acres and commended the results of the nearly \$2 million Monastery Run project begun five years ago by a broad-based coalition determined

to tackle the problems of drainage seeping from abandoned mines and polluting the Loyalhanna Creek.

Congressman John Murtha said, "Clean water is essential. There's nothing more important in western Pennsylvania than getting our streams cleaned up. I compliment the work you've done in getting everyone involved."

The congressman thanked Saint

**Artists offer impressions in exhibit, "Creative View of Monastery Run," story page 4.**



As part of the dedication ceremony at the Monastery Run Project's Wetland 1, officials raise a baffle and water enters the wetland. The final two wetlands of the project's three were dedicated at the ceremony.

Vincent, citing in particular "the vision and the imagination" of Saint Vincent College Provost, Br. Norman W. Hippos, O.S.B., a member of the coalition Steering Committee.

Others speaking at the dedication also expressed appreciation. The director of the Office of Surface Mining, Kathy Karpan, coming from her Washington office, praised Monastery Run as a "model" project that helped send a signal from the grassroots level that dealing with mine drainage must be an important national concern. Efforts such as these, she explained, have given impetus to programs such as Appalachian Clean Streams and the American Heritage Rivers program.

State Conservationist Janet Oertly of the Natural Resources Conservation Service said she was "happy to see the results of this work — this leading edge technology. Locally led, this project is a shining example of a partnership effort of federal, state, and college resources. This is phenomenal, and a prime example of what local people coming together can do. Just look at what you've accomplished."

She also recalled the words of the Rev. Earl J. Henry, O.S.B., president of Wimmer Corporation and a member of the coalition Steering Committee, who had urged the newly-formed group in 1993 to use its "creative powers to reclaim the water."

The brief dedication ceremonies were held at both wetlands located off of Beatty Road near Saint Vincent. Wetland 1 is an 8.5-acre, \$500,000 project of the state Bureau of Abandoned Mine Reclamation of the Department of Environmental Protection (DEP). Wetland 2 is a 7.5-acre project undertaken by the USDA Natural Resources Conservation Service at a construction cost of \$162,000.

Others speaking at the dedication included Robert C. Dolence, Deputy Secretary of the DEP's Office of Mineral Resources Management; Byron Thompson, national coordinator of the Rural Abandoned Mine Program of the Natural Resources

# Article from St. Vincent Magazine - Winter 1999 (continued)



Among those gathered for the Monastery Run Project dedication were, from left, Steering Committee member and College Provost, Br. Norman W. Hipps, O.S.B., Congressman John Murtha who offered words of praise, Steering Committee member Linda Boxx and College President, the Rev. Martin R. Bartel, O.S.B.

Conservation Service, and Br. Norman of Saint Vincent.

The dedication followed the sixth annual Monastery Run Symposium which was held earlier that day in the College amphitheatre. Featured at the symposium were updates on the wetland construction as well as watershed basin planning. There were also technical presentations about research completed in the Monastery Run Project as well as overviews of other abandoned mine drainage research.

Speakers at the symposium included Wesley Gordon of the Natural Resources Conservation Service; Eric Cavazza of DEP/Bureau of Abandoned Mine Reclamation; William Aljoe of the U.S. Department of Energy; Thomas F. Grote of the Loyalhanna Watershed Association; and Rob McCombie of the Kiski-Conemaugh River Basin Alliance.

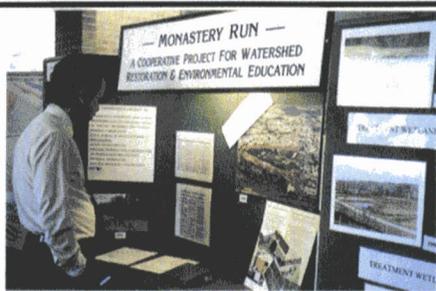
Reporting on research projects were Dr. Cynthia Walter, Dr. Daryle Fish, and student Beth Smyder, all of Saint Vincent College; Dr. Carl Kirby of Bucknell University; Dr. David Dzombak, C'79, of Carnegie Mellon University; Dr. Rosemary Capo of the University of Pittsburgh, and Dr. Brian Dempsey of the Pennsylvania State University. Symposium coordinator Dr. Caryl Fish introduced the speakers. A welcome was offered by Saint Vincent Academic Dean, Dr. Barbara Edwards.

The goal of the Monastery Run Project is to restore the water quality of Loyalhanna Creek

which is designated as a high priority on Pennsylvania's degraded watershed list. The most visible and severe problem in the watershed is the discharge from abandoned deep mines seeping into two streams, Fourmile and Monastery Run, which flow into the Loyalhanna.

Restoration activities have included the construction of wetland systems to treat the mine discharges, the ongoing monitoring of the water chemistry and biology, and the conducting of environmental education for undergraduate students and for K-12 teachers and students.

The first wetland system to be constructed of the three was completed in 1997. Located behind the Saint Vincent gristmill, it covers 3.11 acres and was built at a cost of \$220,000. Also



A display at the Monastery Run Symposium, in photo at top, explains the project, while Dr. David Dzombak, C'79, pictured in photo above, is among the speakers at the symposium who talked about related research. In photo below, walkers hike around the wetlands designed to counter the effects of drainage seeping from abandoned mines and polluting the Loyalhanna.

included in that phase was construction of a four-celled mesocosm or outdoor laboratory. Major funding came from an Environmental Protection Agency 319 grant through the Pennsylvania Department of Environmental Protection. In addition to the funding for construction,

additional funds have been used for subsidence in the area. There has also been funding to the educational programs at Monastery Run. In addition, some funding for the project has come from private foundations, including the McKenna Foundation and others.

## Artists offer 'Creative View of Monastery Run'

The invitation was intriguing. Artists and photographers in the region were invited to bring paints, watercolors, cameras... whatever, and spend the day at the Monastery Run Project site at Saint Vincent working *en plein air* to prepare artworks for an exhibit that would capture the "spirit" of the project. The invitation also noted that cash purchase prizes were offered for the exhibit which would be on view at the College and would be titled, "A Creative View of Monastery Run."

"What is the Monastery Run Project?" That is what many of the artists wondered who had not heard of the project that is designed to help clean up the Loyalhanna Creek. But the on-site work day -- Oct. 17 -- was also designed to help them understand the significance of the project.

So the special day arrived (a balmy, summer-like day boasting of brilliant blue skies against crisp autumn colors) and the artists came equipped with cameras, paints, easels, chairs and all sorts of paraphernalia, and found their way to the site located near the Saint Vincent gristmill. With an introduction from the exhibit coordinator Carol Pollock, the former director of Saint Vincent Gallery (shown at left), and some technical background from faculty member, Dr. Caryl Fish, they were off to explore the site.



Kathleen Forejt of Scottsdale recalls that she arrived late that day and was trying to get a sense of what she was viewing. She stopped one man whom she mistook to be a backhoe operator and quizzed him. He turned out to be Saint Vincent College Provost Br. Norman W. Hipps, O.S.B., a member of the Steering Committee of the Loyalhanna Creek Mine Drainage Coalition which has sponsored the project. He patiently and at length explained what the project was about. She took his photo and went home and produced a large, vividly-colored oil painting which she titled, *Brother Norman's Vision*. It captured one of the three juror's award purchase prizes for the exhibit. "I think it was a blessing that I ran into him. I didn't know he was the Provost," she said at the exhibition reception.

Other artists offered their own interpretation of the site, some representational, others more abstract, even a bit impressionistic. Eventually about a hundred works were included in the exhibit including oil paintings, acrylics, watercolors, pastels, charcoal drawings, photographs, and sculpture. The exhibit was on view for a week in the new Prep Hall.

Ms. Pollock had been pleased that so many artists had shown up for the work day at the project site. As she prepared the exhibit to open, she said, "I was delighted with both the quality and the quantity of the works that were presented, and happy that some of the purchased winning works will be adorning the offices or halls of Saint Vincent."

Winners included Rita K. Haldeman of Jeannette who won the first place \$750 purchase prize for her oil painting, *Morning at Monastery Run*. Second place winner of the \$500 purchase prize was Rose Blout of Uniontown for her watercolor, *Reflection on Monastery Run*. The three



From top, visitors see a wide variety of work depicting the Monastery Run Project in the 'Creative View' exhibit in Prep Hall. Among the winning works, first place winner, *Morning at Monastery Run* by Rita K. Haldeman of Jeannette; second place winner, *Reflection on Monastery Run* by Rose Blout of Uniontown; and a juror's award winner, *Brother Norman's Vision* by Kathleen Forejt of Scottsdale.

winners of the \$250 jurors' awards were Barbara Kern Bush of Saltsburg for her oil painting entitled *Wet Color*, Betty Reese for her pastel entitled *An Evening Reflecting on Monastery Run*, and Ms. Forejt. A special \$125 Harold Grey-Carol Pollock Award for Photography was presented to Nancy Ravis of Latrobe for her color photograph entitled, *Twice Blessed*. There were also 13 honorable mentions.

This was not the first time that artists had been invited to use Saint Vincent as fodder for their artistic impressions. Twice in years past, artists were invited to capture the spirit of the campus for exhibits that were billed as "A Day in the Life of Saint Vincent."