

# PROJECT SUMMARY

Chartiers Creek Watershed Association

Revised June 2009

## BACTERIOLOGICAL MONITORING

The Chartiers Creek Watershed Association is now taking part in the Department of Environmental Protection's Citizen Volunteer Bacteria Monitoring Study.

For the study, Chartiers Creek will be checked several times in the summer of 2009 for fecal coliform bacteria. Creek samples will be collected at two locations along Route 18 south of Washington in South Franklin and North Franklin Townships. It is expected that the study will continue in 2010 at two other locations further downstream.

Training for the Association's volunteer monitors was conducted on May 13 by Angela Bransteitter, Water Pollution Biologist for the Department of Environmental Protection, who is in charge of this program. The samples will be analyzed at Environmental Services laboratory in Van Voorhis.

## CANONSBURG LAKE RESTORATION

The Canonsburg Lake Restoration & Improvement Committee has been working with the Army Corps of Engineers on plans to clean up, restore and preserve Canonsburg Lake. Now the planning stage is complete, as described in the following words of the Corps of Engineers.

"The Pittsburgh District Corps of Engineers (District) is proposing to restore a portion of the degraded aquatic ecosystem of Canonsburg Lake located along Little Chartiers Creek in Washington County, PA near State Route 19. The lake is formed by Alcoa Dam, originally built in 1943 to create a source of industrial water supply. In 1958 the lake and dam were donated to the Commonwealth of Pennsylvania; they are managed by the Pennsylvania Fish and Boat Commission.

Since its completion, the lake has been filling with sediment at the rate of approximately 0.1 feet per year. Because of sedimentation, the original 76-acre lake has been reduced to about 63 acres, and its maximum depth has been reduced from 42.6 feet to about 11.5 feet. In addition the lake has been degraded by excessive sediment inflow and phosphorous-loading from agricultural fertilizers used in the watershed. As a result, the lake is now inhabited by increasing numbers of less desirable fish species, such as gizzard shad and carp that thrive in warm, shallow, eutrophic waters.

The Corps proposes to use a combination of lake dredging and in-lake sediment disposal within geotubes (very large, porous fabric "bags") placed along the shoreline in strategic locations to create 13.48 acres of shallow water submerged aquatic habitat, 2.02 acres of emergent wetland habitat, 0.97 acres of riparian zone habitat, and 10.27 acres of deepwater habitat. The recommended plan will restore a total of 26.74 acres of the lake at a cost of



approximately \$6 million.” **[Note: in addition, the project requires local funds totaling about \$2.1 million, which the Save Canonsburg Lake Committee is now trying to raise.]**

[A copy of the entire study is included on this website for your review. Click on Planning Documents to view the study.](#)

## **TRAIL IMPROVEMENTS AT CANONSBURG LAKE**

Work on improving existing trails began in 2006 on the eastern side of the lower lake when Junior Girl Scout Troop 1942, under the leadership of Bridget Kirwan, began a significant Community Service project. Their immediate goal: improve the existing 1/4 mile trail that connects the two parking lots on the Peters Township side of the lake. At that time, the scouts and community volunteers also created a low-maintenance perennial garden and installed memorial benches at lakeside.

Work on the North Strabane side of the Lake began in 2008 with the installation of a footbridge across a shallow gully. The footbridge was constructed under the leadership of Sam Furlong as an Eagle Scout project. Cost of the footbridge and other trail work is funded by a grant from the Abernathy Fund of the Washington County Community Foundation.

## **INFORMATIONAL KIOSKS**

Two informational kiosks have been constructed, one at the paved lot off McDowell Lane, the other at the unpaved lot below the dam off West McMurray Road. The kiosks are among the amenities recommended in the Canonsburg Lake Master Site Plan.

The Canonsburg Lake Restoration & Improvement Committee has constructed the kiosks to inform visitors of the attractions at the lake.

Financial support for this project was provided by the Dominion Foundation which is dedicated to the economic, physical and social health of the communities served by Dominion companies, a grant program administered by Western Pennsylvania Conservancy.

Major contributors to this installation included Betler Builder, Inc., who donated all the labor to fabricate and construct the kiosks, and Brookside Lumber & Supply Co., Inc. who provided a discount for all materials used.

## **WEBSITE DEVELOPMENT**

The main purpose of the website of the Chartiers Creek Watershed Association is to promote communication, education, and outreach among watershed groups in both the upper (Washington County) and lower (Allegheny County) portions of the watershed, as well as among community members and watershed association volunteers throughout the area.

The website's original development was funded by a Growing Greener grant from the PA Department of Environmental Protection. Support for the project has also been provided by grants from the Dominion Foundation, administered by western Pennsylvania's Watershed Assistance Center.

The website is currently being maintained by Richard R. Dupree of [Dupree Solutions](#).

## **IMPLEMENTATION OF RIVER CONSERVATION PLAN**

Association projects have been and will continue to be chosen to address the goals of the Chartiers Creek River Conservation Plan.

The River Conservation Plan for the Upper Chartiers Creek Watershed was completed in 2002. This project was undertaken by the Chartiers Creek Watershed Association (ChCWA) and the Washington County Watershed Alliance (WCWA). Development of the River Conservation Plan was funded by a grant from the PA Department of Conservation and Natural Resources (DCNR), combined with matching funds from local organizations and volunteer time worked by members of the project's Steering Committee, ChCWA, and WCWA.

The Upper Chartiers Creek River Conservation Plan was an essential first step toward improving and protecting the resources of this area of Washington County. It is a tool for local and multi-municipal planning to address the problems that are identified. It will be an asset to municipalities and organizations seeking funds for projects to implement the recommendations of the plan.

The Upper Chartiers Creek River Conservation Plan has been listed on the Pennsylvania Rivers Conservation Registry. That listing makes implementation activities, whether for detailed planning or construction, eligible for Keystone Funds, which are administered by the Department of Conservation and Natural Resources. The communities that lie within the Upper Chartiers Creek Watershed are eligible for grants made available through the Keystone Grant Program. Additionally, other grant programs will be more receptive to funding implementation projects.

With an accepted plan approved and placed on the Registry, municipal officials and staff, government agencies, politicians, non-profit organizations, and/or partnerships of these entities can work together to make improvements to the items discussed in the plan.

The plan is the watershed's best guide for land stewardship and consistent comprehensive concepts and practices regarding the watershed and land use.

The association continues to seek implementation of this plan in conjunction with the municipalities within the watershed.

**[A copy of the River Conservation Plan is included on this website for you to read. Click on Planning Documents to view the plan.](#)**

## **REMEDIATION OF MOLYCORP SITE, CANTON TOWNSHIP**

This site, located in Canton Township, bordering Chartiers Creek, contained hazardous and radioactive materials left over from early industrial operations. Cleanup and disposal of these materials, in accordance with regulations of the Nuclear Regulatory Commission, have been an essential prelude to redevelopment of the area.

Canton Township and concerned citizens through the Nuclear Regulatory Commission Site Specific Advisory Board submitted a 2000 plus page document with evidentials to the Nuclear

Regulatory Commission in July 2000. This submission along with Site-Specific Advisory Board testimony persuaded the Nuclear Regulatory Commission to cause Molycorp to move the radioactive waste to an off-site facility as opposed to storing the radioactive material in the middle of Canton Township neighborhoods. This intervention prevented the devaluation of real estate values within approximately a 2 mile radius of the site.

On December 19, 1963, the Molybdenum Corporation of America obtained a source materials license (License SMB-744 from the Atomic Energy Commission (AEC) (later NRC) because of the processing of concentrates that contained 0.05 percent (or higher) of uranium and/or thorium. The current Source Materials License is SMB-1393 (Docket 4008778). Between 1964 and 1970, Molycorp produced ferrocolumbium alloy from concentrate produced from pyrochlore ore, which originated from the Companhia Brasileira de Metalurgia e Mineracao's Araxa mine, in Araxa, Brazil. This slag was initially segregated and retained on site, and continued to be generated on-site through 1970.<sup>1</sup> In 1972, Molycorp excavated soil containing relatively high concentrations of thorium bearing slag, and shipped approximately 14 truckloads of this soil/slag material to a disposal facility in West Valley, New York. The remaining slag from the production of the ferrocolumbium alloy was in the form of refractory and glass/ceramic slag containing thorium. This material was stored in a 22,700 cubic yard pile with average concentrations of thorium 232 (TH-232) in the slag was 1,250 pCi/g with exposures within the 0.2 mR/hr, the maximum level of exposure allowed at the time.<sup>2</sup>

In 1996, Molycorp excavated approximately 4,000 cubic yards of material that was located along its northern boundary from the Findlay Clay Refractories property and placed the contaminates into roll-off boxes. As part of the decommissioning plan, in the year 2000-2001, Molycorp removed 194 roll-off boxes of remediated material from the former Findlay Clay Refractories site and the 10,000 cubic yard slag pile to the Envirocare facility in Utah, an NRC sanctioned site.<sup>3</sup>

As part of the decommissioning action, Molycorp unearthed the former water line that was under the thoriated evaporation pond and the above mentioned slag pile. Following the voluminous report of several thousand pages submitted by the NRC Site Specific Advisory Board in July of 2000 Molycorp announced on January 4, 2001 that they were seeking to withdraw its request for License Amendment for the Washington Plant located in Canton Township, which was submitted on July 14, 2000. The withdrawal action of the request for License Amendment effectively terminated Molycorp's previous proposal to build an on- site storage cell to contain all of the slag and soil at the facility. The company being aware of the community concerns about the cell's location, and in response to those concerns, and those expressed in the Site Specific Advisory Board Report (SSAB) the company decided to remove the soil and slag from the property.

As a consequence of these actions, 21 plant buildings have been demolished and decommissioned as contracted for through MACTEC and the site is being re-characterized based upon the experience at the York, PA facility. The six principal remedial actions taking place at the site include:

- Excavation of buried Thorium - bearing soils
- Manufactured Gas Plant Tar Ponds Remediation
- Impoundment Closure

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<sup>1</sup>Molycorp Site Characterization Report for License Termination Vol. 1 of 3 January 1995, Foster Wheeler, page 2-14

<sup>2</sup>Molycorp, Draft Supplemental Site Characterization Plan for the Washington, Pennsylvania Site, Malcolm Pirnie, August 2003 and Decommissioning Plan Part 1, Part 1 Revision, June 30, 1999 and Molycorp Site characterization Report for License Termination, January 1995 Vol. 1 of 3.

<sup>3</sup>Molycorp, Draft Supplemental Site Characterization Plan for the Washington, Pennsylvania Site, August 2003, Malcolm Pirnie pg 1-17

- Northern Property Boundary Remediation
- Slag Pile Removal
- Building Demolition

The Nuclear Regulatory Commission forced Molycorp and its parent company Unocal and subsequent parent, Chevron Corp. to remediate the site and also through PADEP to remediate the coal tar from a former gas manufacturing plant. Nuclear Regulatory Commission (NRC) - Site Specific Advisory Board reports were sent to the NRC in May of 2000 and the final Addendum Report and Exhibits were sent to the NRC on or about July 6, 2000. The Nuclear Regulatory Commission, Atomic Safety and Licensing Board Final Memorandum and Order (approving stipulation and terminating proceeding) was signed April 20, 2001 by Judge Charles Bechhorfer, Administrative Law Judge, Nuclear Regulatory Commission.

The Department of Environmental Protection has fined Molycorp \$250,000 for water violations and charged the company an additional \$225,000 for oversight costs incurred by DEP to monitor and supervise the remediation of a former metallurgical processing facility in Canton Township, Washington County. (source PA DEP) The \$475,000 was to be paid to the state's Clean Water Fund, which finances projects to improve water quality across Pennsylvania.

**Table 6. Environmentally Significant Events in the History of the Molycorp Site**

<b>Date</b>	<b>Event</b>
1902	Main plant purchased by the Railway Spring and Manufacturing Company
1916	Electric Reduction Company purchased the site
1920	Molybdenum Corporation of America formed from the Electric Reduction Company (in 1974 the name was changed to Molycorp, Incorporated)
1963	NRC license obtained to produce ferrocolumbium
1966	Eight surface impoundments installed
1969	Ferrocolumbium slag used as fill over large area of the site
1970	NPDES permit obtained
1971	NRC requests site cleanup
1976	Area 5 and 7A purchased - coal tar present
1976	Morris farm purchased
1976 – 1981	Slag fill in Morris Farm part of area 5
1978	Ferrocolumbium slag cleanup completed
1980	Building demolition and reconstruction completed
1980	Resource Conservation and Reclamation Act, Part A permit application filed
1981 –1986	Slag filled in Area 5E
1982	Sulfuric acid plant on line
1985	Tar pond remediation conducted-RCRA Part B permit denied
1991	Facility placed on stand by
1992	NRC requests decommissioning
1994	Site characterization conducted
1995	Surface impoundments Phase I closure completed

2001	Slag pile excavated and shipped off site for disposal
2002	Building demolition completed
2003+	Site re-characterization core borings conducted 1st qtr 2003 <sup>4</sup>

### Remediation Efforts by PADEP

Currently, Molycorp is working diligently and constructively with the PADEP and the U.S. Nuclear Regulatory Commission (NRC) to remove the radioactive soil and slag through a re-site characterization process and coal tar remediation and removal project. These constructive remediation processes will achieve the goal of remediating the site to a reusable state for both the NRC license termination and PADEP clearance for coal tar removal of the former Pennsylvania Atlas Chemical Company and associated tar ponds. The Pennsylvania Atlas Chemical Company produced a coal-based natural gas from a facility that may have been a factory where coal was cooked in a vat to generate gas circa 1925-1947. The 1896 Sanborn Maps showed a manufactured gas plant (MGP) on the north side of East Maiden between Lincoln and East Avenue. It was called the Washington Gas Company and is present on the 1900 Sanborn Map, but not the 1904 Sanborn Map. This Manufactured Gas Plant is thousands of feet east of the affected area. Between 1914 and 1925 the Pennsylvania Atlas Chemical Company was built. The 1925 Sanborn map shows the facility to the west of the Hazel No.2 facility, east of Chartiers Creek and north of the Baltimore and Ohio Railroad. The meeting minutes from the Hazel-Atlas board indicate that building a Manufactured Gas Plant to supply gas to the Hazel No. 2 was discussed on November 27, 1915. The minutes of June 27, 1916 indicate the board approved a contract with Smith Gas Engineering Company of Lexington, Ohio to design and build a "gas producer plant to supply clean gas to the Hazel No. 2 Factory." The minutes of February 13, 1917, indicate that gas production has started at Hazel No. 2. <sup>5</sup> The gas was transported to a below grade gasholder as shown on the 1925 Sanborn Maps. An internal Molycorp document entitled "Project History" indicates that a coal gasification plant was operated in the vicinity of the foundation from around 1900 through possibly 1950. Tar from this facility "flowed downhill from the plant through wooden trenches and pipes to one of three unlined tar ponds."<sup>6</sup> One explanation of the below ground gas holder was that it may have been built earlier by Hazel Atlas (around 1900) and used to store natural gas, in order to level out pressure fluctuations in the gas supplied to the Hazel No. 2 Glass facility. This gas holder had a 200,000 cu. ft capacity, and was located about 300 feet to the west of the nearest building at the former Hazel No. 2 facility, it may have been considered too far away to constitute a fire hazard and therefore not be shown on the earlier Sanborn Maps.<sup>7</sup> Hazel Atlas board meeting minutes indicate that contracts had been prepared with Combustion Utilities Corporation by July 29, 1922 to build the Pennsylvania Atlas Chemical Company Gas producer plant. There were problems with the plant and it continued to operate until at least 1931. The facility was not shown on the 1925 Sanborn Maps. There were two tanks labeled on the 1925 Sanborn Map and the two tanks appear to exist on this property. The following is a summary of SRW boring results. (Refer to Table 7.)

There are a number of locations where tar is visible on the stream bank and, in some cases, in the sediment. There are some potential locations where tar will still seep into the stream during warm weather. All of these potential locations are associated with shallow groundwater flowing into

<sup>4</sup>Molycorp, Draft Supplemental Site Characterization Plan for the Washington, Pennsylvania Site, August 2003, Malcolm Pirnie pg 1-18-19

<sup>5</sup> Molycorp, Draft Supplemental Site Characterization Plan for the Washington, Pennsylvania Site, August 2003, Malcolm Pirnie pg 1-20

<sup>6</sup>Molycorp, Draft Supplemental Site Characterization Plan for the Washington, Pennsylvania Site, August 2003, Malcolm Pirnie pg 1-20

<sup>7</sup>Molycorp Draft - Supplemental Site Characterization Plan for the Washington, Pennsylvania Site August 2003, pages 1-7-8, 1-20

Chartiers Creek. Stormwater from the remainder of the site discharges to the streams via natural channels and can carry surficial soils into the streams.

Once the hazardous materials have been removed, work focused on restoring the property. Notably, in October, 2008, a newly-constructed wetlands area was dedicated. The area will provide overflow space for flood water, as well as valuable habitat for wildlife.

The Association has been supportive of the decommissioning process so that this important former industrial site can become a keystone gateway site for the Commonwealth of Pennsylvania as indicated in the Canton Township Comprehensive Plan Amendment Ch 28. The site is in a Special Development District which is within a day's drive (500 miles) of:

- 63% of the national industrial output.
- More than 53% of the U. S. Buying Income.
- 20 Metropolitan areas each exceeding 1 million people.
- 49% of the U. S. Population.

The site through the Canton Township Comprehensive Plan is capable of creating over 1,000 family sustaining jobs. It is an important flood retention area, which will help smooth the flow of water during heavy rain storms, as well as a bio-enhancement zone for the future of the watershed, providing the best in land use for economic development and watershed management.