

**Western Pennsylvania Conservancy  
Hays Property Visit - 11 July 2003  
Site Report**

*Background*

On Friday, July 11, 2003, staff from the Western Pennsylvania Conservancy visited the Hays site proposed for surface mining and other development. The visit was conducted at the request of City of Pittsburgh Councilman William Peduto who is seeking technical assistance in this matter.

The group spent five hours at the site. Attending were: David Miller of Hiser Engineering; Mark Killar, WPC director, watershed services; Nick Pinizzotto, WPC senior director, watershed assistance program; Jeff Wagner, WPC county natural heritage coordinator and natural communities ecologist; and Jacqui Bonomo, WPC vice president, natural resource conservation. A WPC volunteer also attended.

The evaluation of the Hays Site began with a brief general overview of its history by David Miller, a geologist with Hiser Engineering, Inc. Hiser Engineering is under contract with the landowner to perform the technical evaluation of the site and permit preparation for the proposed surface mining. In brief, Mr. Miller explained the site was used as a research facility by LTV Steel, which conducted testing with slag from their mills. Prior to that the site had been extensively deep mined before some surface mining took place.

*Abandoned Mining Operation Impacts Evaluation*

Our efforts focused on the environmental effects of the abandoned coal mines, in particular, effects on water quality and land resources. Most of the site had originally been deep mined for Pittsburgh Seam coal. Mr. Miller said the coal averaged 10 feet thick throughout the site and a clay layer underlies the coal seam with a limestone layer immediately below the clay. Our surveyed revealed several collapsed deep mine openings at an elevation consistent with the outcrop of the coal seam at the surface. No water appeared to be emanating from the deep mine openings. The dip of the coal seam was in a general westerly direction, which would suggest the water flowed away from the collapsed openings we observed.

Abandoned mine drainage (AMD) was noted in several areas that appeared to have been previously surface mined. These areas were also at an elevation consistent with the outcrop of the coal seam. Water quality data provided by Mr. Miller indicated the AMD contained elevated levels of sulfates, acid, iron, aluminum, and manganese. The discharges were small in volume (<20 gpm), especially considering the amount of precipitation the area has recently received.

The site is drained by several steep, intermittent streams and at least one perennial stream. The site is bisected by the perennial stream, which is the largest of the drainages. It drains in a northeasterly direction to the Monongahela River. AMD was observed discharging at the coal outcrop elevation in an area that appeared previously surfaced mined. It appears the clay layer associated with the coal seam is serving as an aquatard, limiting the waters ability to move vertically and forcing it to the surface at that elevation. Although this intermittent stream appeared severely degraded at the point of the mine discharge, in the area of the large waterfall downstream, a quick visual survey of the stream showed it inhabited by macroinvertebrates.

Macroinvertebrates observed included scuds (*Amphipoda*), mayflies (*Ephemeroptera*) and crayfish (*Astacus fluviatilis*).

The southeastern end of the Hays site contains a significant area of mine subsidence. The coal is very shallow in this area, according to Mr. Miller about 15 feet. The hilltops in this area also have the lowest elevations, which would be consistent with the coal being much closer to the surface and the numerous subsidence depressions.

### *Ecological Assessment*

The property is predominately forested with patches of grassland, sparse-canopy reverting forest, and mixed vegetated roads, clearings and power line right-of-ways. The major drainages associated with the site, along with the slopes above the Monongahela River, Glass Run and Sawmill Run, generally hold the most intact forest communities on the property. Typical of many areas along the Monongahela, the site is influenced by limestone strata lying just under the coal seam which has been the primary resource focus of the site. Likely a rich, mesic forest community at one time, the flora of the site continue to reflect that history. American Beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), sugar maple (*Acer saccharum*), American basswood (*Tilia americana*), hackberry (*Celtis occidentalis*) are dominant canopy tree species in many of the more mature forested areas. These areas are contiguous with forested land off-site, especially those sections on the lower slopes facing the Monongahela within Baldwin Borough.

Highly disturbed from past land uses, significantly invaded with exotic species, lacking viable soil/substrate in numerous areas, and replete with water quality and safety issues beneath the surface, this property nonetheless still serves important ecological functions. Its contiguousness with forested slopes of the Monongahela and local, major tributaries contributes to habitat value for wildlife, including birds, insects and herptiles. The fact that it is mostly forested, particularly on the steeper sections, provides for good water infiltration and retention function as well temperature regulation value.

The properties' value as part of the larger river corridor would need to be more fully assessed but even with major changes impending, there are opportunities to retain the best natural values, improve water quality, and capitalize on striking and unique views as part of its future public dimension.

### *Recommendations*

Considerations for the ecologically sensitive development of the property would include:

- Maintain and improve the health of existing slope forests by minimizing further disturbance, promoting full canopy conditions, and controlling invasive exotic species like tree of heaven (*Ailanthus altissima*).
- Maintain and enhance viable streams and drainages, especially the larger examples, through remediation of AMD inputs, careful management and cleansing of (upland) source waters, and restoration of riparian corridors, where necessary.

- Conduct a more detailed assessment of the macroinvertebrate community living within the existing drainages. A thorough evaluation should be conducted at several locations on each waterway to determine the extent of AMD impacts.
- Promote high-quality stream design for new drainages established post-mining. Consider potential habitat values as well as aesthetic and educational opportunities.
- Incorporate viewsheds into the vocabulary of the site design and encourage publicly accessible views that feature the river and the city.

Extensive valley-fills, (re)establishment of utility right-of-ways within currently forested areas, planting and encouragement of aggressive exotic plants, and lack of innovative strategies for maximizing water infiltration when establishing large impervious surfaces across the site will likely decrease the potential of the property as important habitat and greenspace within the Monongahela River Corridor.