



# Palmerton Zinc Pile Superfund Site Natural Resource Damage Assessment

## Aquatic Investigations

### *Evaluation of Injury to Aquatic Habitat Resulting from Metals Contamination*

The Palmerton Zinc Pile Superfund Site in PA is the site of a former zinc smelting operation. For most of the 20<sup>th</sup> Century, the Palmerton, PA facility emitted large quantities of metals including arsenic, cadmium, lead, manganese and zinc, that were deposited in the Palmerton area including Blue Mountain and nearby watersheds. While the U.S. Environmental Protection Agency continues clean-up efforts, Federal and State trustee agencies are conducting a Natural Resource Damage Assessment (NRDA). Monies recovered through the NRDA process will be used to restore, replace, or acquire the equivalent of the injured public resources in order to compensate the public for lost services provided by those resources.

This Fact Sheet describes on-going NRDA studies concerning the aquatic habitat in waters near Palmerton, and in upstream reference sites. Area waters under investigation include: lower Buckwha Creek, Aquashicola Creek, Mill Creek and the Lehigh River from Leighton downstream to Coplay. These waters provide important habitat for many animals including birds, reptiles, amphibians, fish and aquatic insects.

#### **Purpose**

The results of previous studies indicated that metals concentrations in sediment, water, and biota are elevated in area waters. The following studies developed in cooperation with CBS Operations, Inc. (Potentially Responsible Party) are designed to help evaluate injury to the aquatic habitat resulting from site-specific metals contamination. Detailed study plans will be made available at: [www.fws.gov/contaminants/restorationplans/Palmerton/Palmerton.cfm](http://www.fws.gov/contaminants/restorationplans/Palmerton/Palmerton.cfm)

#### **Aquatic Macroinvertebrate Study**

The macroinvertebrate community includes aquatic insects and other aquatic organisms. These animals make up communities with a wide range of pollution tolerances and therefore are useful indicators of aquatic habitat conditions. Previous studies have shown impacts to community structure and function in Aquashicola Creek. This study will provide current information on the macroinvertebrate community within area waters.

#### **Periphyton Study**

The periphyton community is comprised of algae, bacteria, and fungi attached to the stream bottom. An important component of the stream ecosystem, the periphyton community serves as a food source for other aquatic biota. The periphyton community can provide useful information about the health of the aquatic system, respond rapidly to changes in the ecosystem, and provide a basis for comparison among reference and study locations.

#### **Fish Community Study**

This study will characterize the fish community in terms of species diversity and abundance within area waters. Differences in the fish community among sites, including upstream reference sites, will be assessed. The Trustees will evaluate individual species and/or related groups of species, and fish-tissue to determine whether variability may be related to site-specific contaminants.



Aquashicola Creek

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January 2008