

Annotated Bibliography of Sources Written about the  
Palmerton Zinc Pile Superfund Site and Lehigh Gap

Compiled By: Meredith Wright

Summer of 2009

## **Introduction**

### ***A brief overview of the story of the Lehigh Gap- from Superfund Site to Wildlife Refuge***

For eighty-two years, The New Jersey Zinc Company operated two smelting facilities at the base of Blue Mountain in Palmerton, Pennsylvania. During their time of operation, adequate pollution control technology did not exist and the two zinc smelters filled the atmosphere with pollutants, including sulfur dioxide and various heavy metals, primarily cadmium, zinc, and lead. The greatest amount of pollution produced was emitted between 1918 and 1962, largely because of the zinc needed for World War I and II. At that time sulfur dioxide was being emitted at 3,300-3,600 pounds per hour, cadmium was being released at 47 tons per year, lead at 95 tons per year, and zinc at 3,575 tons per year. As a result of the pollutants released during the decades of zinc smelting, much of the vegetation and wildlife were devastated in the town of Palmerton and the Lehigh Gap, the area where the Lehigh River cuts through Blue Mountain, forming a gap in the Kittatinny Ridge.

By the time the zinc smelters ceased operation in 1980, the ecosystem at the Lehigh Gap was so ravaged that the land, which was extensively eroded, consisted only of subsoil and rocks. Even lichens, fungi, and bacteria could not survive in the heavy-metal filled soil. In 1983, this 2,000-3,000 acre area of land was so contaminated that it was federally recognized as a Superfund Site, placed on the national priorities list, and titled the Palmerton Zinc Pile Superfund Site.

In 2002, after other attempts to revegetate Blue Mountain, a group lead by a retired high school biology teacher, Dan Kunkle, obtained 756 acres of land which they planned to remediate. They called it the Lehigh Gap Wildlife Refuge in the hopes that it could one day go from a Superfund Site contaminated with hazardous waste, to a well-established ecosystem that vegetation and wildlife could once again inhabit.

The group began the revegetation effort by looking to nature for a solution and attempting to find a way to accelerate the process. Because native, warm-season grasses were able to tolerate the heavy metals in the soil on the outside of the highly contaminated area, they were hopeful that they might also take root in a more contaminated area. Thus began the key to the revegetation effort. The group seeded the mountain with native warm-season grasses, which not only grew successfully, but also helped to stem the erosion problem and keep the heavy metals contained within the soil.

The revegetation effort was a success and by 2003, after just one year of remediation, the Refuge property had already started to become a thriving grassland. Today the Refuge provides not only a safe home for numerous plant and animal species, but it also acts as the Lehigh Gap Nature Center, which provides numerous educational and recreational opportunities to the public.

The story of the successful reclamation efforts at the Lehigh Gap is one filled with optimism and inspiration. Because it is such an interesting area of study, hundreds of people have conducted research on the Refuge property. This annotated bibliography contains much of the information needed to help people discover appropriate sources for their own research interests, regardless of their level of study.

## **A Message from the Author, Meredith Wright**

In the Summer of 2009, I compiled this annotated bibliography which contains many of the sources that have been written about the Palmerton Zinc Pile Superfund Site and the Lehigh Gap Wildlife Refuge. The bibliography includes close to 500 different references, such as federal reports, abstracts, journal articles, books, theses, websites, fact sheets, magazines, newspaper articles, PowerPoint presentations, letters, videos, maps, photographs, and more.

In order to obtain the documents that are included in this bibliography, I traveled to the Palmerton Library, the Lehigh Gap Nature Center, Moravian College's Reeves Library, Lehigh University's E.W. Fairchild-Martindale Library, and researched various internet sites. Some researchers who have conducted studies at the Lehigh Gap also provided me with sources.

It is important to note that this bibliography is a never-ending work in progress. New sources will continue to be added as they are written or discovered, and I fully acknowledge that, due to time constraints, I have not included everything ever written about the Palmerton Zinc Pile Superfund Site and the Lehigh Gap.

***If there are any questions about this bibliography, please contact:***

Dan Kunkle, Executive Director of the Lehigh Gap Nature Center

[dan@lgnc.org](mailto:dan@lgnc.org)

Diane Husic, Chairperson and Professor, Department of Biology, Moravian College

[medwh03@moravian.edu](mailto:medwh03@moravian.edu)

Meredith Wright, Author

[stmew04@moravian.edu](mailto:stmew04@moravian.edu)

*This endeavor was part of Moravian College's undergraduate research program called Student Opportunities for Academic Research, or SOAR. Funding was provided by both the SOAR program and the Wild Resources Conservation Program's Grant, number WRCP-07261.*

## How To Use This Bibliography

This bibliography was created in Reference Manager©, an elaborate software program that produces a searchable database for all the references that are entered. In order to find a reference, a person with Reference Manager may search under the title of the reference, the author, the year it was published, or numerous other fields. If a person wants to find several references on a certain topic, he or she may search any of the keywords provided in the attached pages. Bibliographies can be converted to Word documents or into PDF formats, the latter of which can be searched by individuals who do not have access to Reference Manager.

***Please note the following things about Reference Manager:***

“Catalog” as the “Reference Type” sometimes refers to a binder or a miscellaneous source that does not fit into any other category in Reference Manager

“Motion picture” in Reference Manager = Horsehead Industries, Inc. Superfund video

“Slide” in Reference Manager = Image/Picture

When searching in Reference Manager...

“User Def 1” = Location

“User Def 2” = Type (meaning is it a binder, book, spiral notebook, etc.)

Dates listed as 2009- usually means the year published was not given. Please see “Other Date” for clarification.

As a result of how references are entered into Reference Manager, the “Ref ID numbers” are not consecutive and many numbers are missing. This does not affect the searching or the bibliography.

***Please note the following things about the bibliography:***

“No author given” means that the author was not listed on the reference.

“Various authors” means that the reference contains numerous documents with various authors (such as a “catalog” at the Palmerton Library)

The sources in the Palmerton Library are listed according to location. The book cases are labeled “1, 2, 3” from left to right. Book shelves are labeled “1, 2, 3, 4, 5, 6” beginning with 1 at the top and ending with 6 at the bottom.

The following documents are also found at the Palmerton Library, though they are not included in this bibliography:

- Federal tax reports and tax return forms and letters and IRS instructions for tax returns from 2003-2004. (Book Case 2, Shelf 6)
- A magazine printed for the New Jersey Zinc Company called Zinc. The Palmerton Library has the issues from May 1916 - April of 1949. (Center Book Case on the back wall).
- A magazine printed for the New Jersey Zinc Company called NJZ Progress. The Palmerton Library has some issues from 1973 and 1974.

## Keywords

Lehigh Gap	Palmerton	OU 1
Lehigh River	Palmerton Citizens	OU 2
Lehigh Gap Nature Center	Palmerton Zinc Pile Superfund Site	OU 3
Lehigh Gap Wildlife Refuge	Palmerton Zinc Off-Site Study Area	OU 4
Osprey House	Superfund	
Wildlife Activist		
Cinder Bank	Appalachian Trail	
Blue Mountain	Appalachian Mountains	
Heavy Metals	Household dust	
Zinc (Search this for “zinc smelter” as well)	Interior Dust	
Lead	Dust Sampling	
Cadmium	Housedust Cleaning	
Uranium		
Copper		
Arsenic		
Nickel		
Heavy Metals		
Water	Soil	Paint
Water Sampling	Community Soils	Paint Sampling
Water Quality	Soil Sampling	
Groundwater		
Surface water		
Aquatic		
Record of Decision	East Plant	
Remedial Investigation	West Plant	
Risk Assessment	The New Jersey Zinc Company	
Feasibility Study	New Jersey Zinc, Inc.	
Remedial Action	Palmerton Environmental Task Force	
Damage Assessment	Zinc Corporation of America	
Administrative Record File	Horsehead Industries, Inc.	
De Minimis Administrative Record File	Gulf and Western, Inc.	
Public Comments	ATSDR	
Emergency Response Plan	EPA	
Responsible Party		
National Priorities List		
Media (Search this for newspaper articles)	Bioavailability	Geology
Video	Bioaccumulation	Mining
Map	Hyperaccumulation	
Photographs		
Public Health (Search this for “Exposure” and “Human Health”)		
Environmental Health		
Hazardous Substances		
Contamination		
Pollution		
Animal Toxicity		
Phytotoxicity		

Wildlife  
Amphibians  
Birds  
Birding  
Ornithology  
Arthropods  
Microflora  
Vertebrates  
White-tailed Deer  
Regal Fritillary (Search this for "Butterfly")  
Mycorrhizal Fungi  
Fungi

Ecology  
Ecological Assessment  
Food Webs  
Biodiversity  
Succession

Ecoloam (Search this for "Sewage Sludge")  
Reclamation  
Conservation  
Phytoremediation

Aquashicola Creek  
Bake Oven Knob  
Bethlehem Steel

History  
Basic Information  
Fact Sheet

Electrofishing

Vegetation  
Lichens  
Warm Season Grasses  
Grasses  
Grassland  
Habitat Garden  
Invasive Species  
Sandwort

Northampton County  
Carbon County  
Lehigh County  
Lehigh Valley  
Pennsylvania

Microclimate  
Climate Change  
Weather

Erosion  
Runoff

Recreation  
Education

GIS Data

## Reference List

Advanced Geoservices Corp. Palmerton Lead Exposure Study. 1994. University of Cincinnati, Advanced

GeoServices Corp.

Ref Type: Report

Ref ID: 312

Keywords: ATSDR/Lead/Palmerton/Palmerton Citizens/Palmerton Environmental Task

Force/Public Health

Notes: Palmerton Library, Book Case 1, Shelf 3

Spiral-bound booklet

"This is a report of the findings of the Palmerton Lead Exposure Study performed in the fall of 1994 for the Palmerton Environmental Task Force (PETF)...The objectives of this study were: 1) to determine if children living in the Borough of Palmerton are being unduly exposed to lead, 2) to identify sources and pathways of lead exposure, 3) to quantify their absolute and relative impacts, 4) to assess any changes in lead exposure which might have occurred since the 1991 ASTDR study and 5) if necessary, recommend steps which might be taken to reduce exposures. Report includes tables and figures depicting data."

Advanced Geoservices Corp. and University of Cincinnati. Palmerton Lead Exposure Study- Final Study.

1996. Cincinnati, University of Cincinnati.

Ref Type: Report

Ref ID: 335

Keywords: heavy metals/Lead/Palmerton/Public Health/ATSDR

Notes: Palmerton Library, Book Case 1, Shelf 4

Spiral-bound booklet

"This is a report of the findings of the Palmerton Lead Exposure Study performed in the fall of 1994 for the Palmerton Environmental Task Force...The objectives of this study were: 1) to determine if children living in the Borough of Palmerton are being unduly exposed to lead, 2) to identify sources and pathways of lead exposure, 3) to quantify their absolute and relative impacts,

4) to assess any changes in lead exposure which might have occurred since 1991 ATSDR study and 5) if necessary, recommend steps which might be taken to reduce exposures."

Advanced GeoServices Corporation and U.S.EPA. Twelve Home Clean-Up- Notebook #1. 1992.

Ref Type: Report

Ref ID: 279

Keywords: heavy metals/Horsehead

Industries,Inc./Lead/Paint/Palmerton/Pennsylvania/Horsehead Industries/EPA

Notes: Palmerton Library, Book Case 1, Shelf 1

Binder

A record of the data from homes in Palmerton, Pennsylvania that were tested for lead-based paint. Also includes written communications between Horsehead Industries, GeoServices, and the U.S. EPA regarding the lead testing.

Advanced GeoServices Corporation. Housedust Cleaning and Residential Sampling Report. Volume 1 of 2. 1-14-1993.

Ref Type: Report

Ref ID: 70

Keywords: Housedust Cleaning/Palmerton/Public

Health/Housedust/EPA/Media/Lead/Water/Paint

Notes: Palmerton Library, Book Case 2, Shelf 5

"During the period from February 25, 1992 to June 8, 1992, an interior housedust sampling and cleaning program was performed in the borough of Palmerton Pennsylvania...The program was implemented in 12 of the 24 homes originally designated by EPA; the remaining 12 homes refused to participate. Prior to implementing for the cleaning phase of the program the following media were sampled for lead: housedust, tap water, paint, and the residents' blood. This report explains the conclusions that were drawn from the data." Report includes tables and graphs that depict data.



Advances GeoServices Corporation. Housedust Cleaning and Residential Sampling Report. Volume 2 of

2. 1-14-1883. Advances GeoServices Corporation.

Ref Type: Report

Ref ID: 72

Keywords: Housedust/Housedust Cleaning/Palmerton/Public Health

Notes: Palmerton Library, Book Case 2, Shelf 5

Volume two of the Housedust Cleaning and Residential Sampling Report which explains the conclusions drawn from the housedust cleaning data. It also includes Appendix K- Laboratory Data Sheets and Quality Assurance Review.

Agency for Toxic Substances & Disease Registry. Public Health Assessment- Palmerton Zinc Pile- Palmerton, Carbon County, Pennsylvania. Agency for Toxic Substances & Disease Registry, 2009.

Ref ID: 477

Keywords: ATSDR/Cadmium/heavy metals/Lead/Map/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Superfund/Zinc/EPA/Public/Metals/Palmerton Zinc/Palmerton Zinc Superfund Site/Superfund Site/Pennsylvania/Contamination/Remedial Action/Palmerton Zinc Site

Notes: Internet: [http://www.atsdr.cdc.gov/HAC/PHA/palmzinc/pzp\\_p4.html](http://www.atsdr.cdc.gov/HAC/PHA/palmzinc/pzp_p4.html)

"The U.S. Environmental Protection Agency (EPA) has asked the Agency for Toxic Substances and Disease Registry (ATSDR) to evaluate public health threats posed by exposures to metals detected in areas surrounding the Palmerton Zinc Superfund Site (PZSS) in Palmerton, Pennsylvania and to comment on their proposed removal response action levels in residential surface soil and dust within homes where children 6 years old and younger and/or pregnant women reside. The proposed response will be taken at homes where contamination exceeds both 1,500 milligrams of lead per kilogram of soil (mg lead/kg soil) or dust and 100 mg cadmium/kg soil or dust. Homes where only one of the metals is above the removal response action level will be evaluated on a case-by-case basis. EPA has indicated that the proposed removal action is an interim measure and that future removal or remedial actions, targeted at

lower lead and cadmium levels, may be necessary." Report includes maps of the Palmerton Zinc Site, and zinc, cadmium, and lead concentrations throughout Palmerton.

Agency for Toxic Substances and Disease Registry. ATSDR Public Health Statements. 1990. Atlanta, Georgia, U.S. Department of Health and Human Services.

Ref Type: Catalog

Ref ID: 153

Keywords: ATSDR/heavy metals/Public Health/Palmerton/Public/Metals

Notes: Palmerton Library, Book Case 3, Shelf 2

Stack of loose papers

ATSDR's public health statements regarding exposure to a variety of organic compounds and heavy metals. It is a loose stack of papers not placed in a binder.

Agency for Toxic Substances and Disease Registry. Fact Sheets on Hazardous Substances. 1996.

Ref Type: Pamphlet

Ref ID: 166

Keywords: ATSDR/Fact Sheet/Hazardous Substances/Public Health/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 2

Stack of papers

Fact sheets regarding hazardous substances like asbestos, benzidine, disulfoton, dinitrocresols, dinitrophenols, mirex and chlordecone, naphthalene, polycyclic aromatic hydrocarbons, polybrominated biphenyls, 1,1,1-trichloroethane, and xylene.

Agency for Toxic Substances and Disease Registry. Fact Sheets on Hazardous Substances. 1996.

Ref Type: Pamphlet

Ref ID: 165

Keywords: Fact Sheet/Hazardous Substances/Public Health/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 2

Stack of papers

Fact sheets regarding hazardous substances, including automotive gasoline, diethyl phthalate,

1,3-dinitrobenzene and 1,3,5-trinitrobenzene, fuel oils, jet fuels JP-4 and JP-7, otto fuel II and its components, RDX, stoddard solvent, trtryly, 2,4,6-trinitrotoluene.

Agency for Toxic Substances and Disease Registry. ATSDR Study- Biological indicators of Exposure to Cadmium and Lead- Part 1 & 2 1994. 2009.

Ref Type: Report

Ref ID: 317

Keywords: ATSDR/Cadmium/Lead/Palmerton/Palmerton Citizens/Pennsylvania/Public Comments/Public Health/Public/EPA

Notes: Palmerton Library, Book Case 1, Shelf 3

Binder

"The Pennsylvania Department of Health, with technical assistance from the Agency for Toxic Substances and Disease Registry, conducted an exposure study in 1991 to determine whether residents in the target area of Palmerton had been exposed to excess amounts of cadmium and lead." Binder also contains public comments and comments from the U.S. EPA regarding the exposure study and tables and figures depicting data.

Agency for Toxic Substances and Disease Registry. ATSDR, Biological Indicators of Exposure to Cadmium and Lead, Palmerton, Pennsylvania PART 1. 1994. Atlanta, Georgia, U.S. Department of Health and Human Services.

Ref Type: Report

Ref ID: 313

Keywords: ATSDR/Cadmium/heavy metals/Lead/Palmerton/Palmerton Citizens/Pennsylvania/Public Health

Notes: Palmerton Library, Book Case 1, Shelf 3

Stack of papers attached by black binding

"The Pennsylvania Department of Health, with technical assistance from the Agency for Toxic Substances and Disease Registry, conducted an exposure study in 1991 to determine whether

residents in the target area of Palmerton had been exposed to excess amounts of cadmium and lead." Report includes tables and figures that depict data.

Anon. "Habitat garden project aims at promoting wildlife friendly gardening techniques and plantings."

Wildlife Activist.55 (2006): 27-28.

Ref ID: 519

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Vegetation/Wildlife/Wildlife Activist/Lehigh Gap/Habitat Garden

Notes: Lehigh Gap Nature Center

An article about the habitat garden project at the Lehigh Gap Wildlife Refuge.

Arcadis and Blasland, Bouck and Lee Inc. Spring/Seep Water Sampling Work Plan. 1-37. 9-14-2007.

Blasland, Bouck, and Lee, Inc.

Ref Type: Report

Ref ID: 460

Keywords: Seep Spring/Water/Water Sampling

Notes: LGNC Computer

Report

"This Work Plan presents the scope of the 2007 and 2008 spring/seep water sampling events.

This Work Plan describes the sampling locations, sampling procedures and the proposed analytical methods. This Work Plan also presents the information necessary to establish the data quality objectives (DQOs) and a description of the health and safety considerations." Includes tables and figures depicting data.

Arcadis and Blasland, Bouck and Lee Inc. Draft- Palmerton Zinc Superfund Site Invasive Plant Management Plan. 1-29. 12-21-2007.

Ref Type: Report

Ref ID: 461

Keywords: Invasive Species/Palmerton/Palmerton Zinc Pile Superfund

Site/Superfund/Vegetation/Zinc/Remedial Action

Notes: LGNC Computer

Draft Report

This IPMP proposes invasive plant species management and control measures for the remedial action areas receiving either an application of seed and amendments (application areas) or areas of construction activities (haul road, temporary Appalachian Trail [AT] and resource islands) (construction areas) within GA-2 (collectively, the GA-2 Remedial Action Areas). This IPMP shall only apply to the GA-2 Remedial Action Areas. It does not apply to the GA-2 monitoring areas or to Geographical Area 1 (GA-1) areas.

B & V Waste Science and Technology Corp. Remedial Investigation/Feasibility Study: Groundwater, Surface water- Operable Unit #4. 1993.

Ref Type: Report

Ref ID: 324

Keywords: Feasibility Study/Ground Water/OU 4/Pollutants/Remediation/Surface Water/Water/Palmerton

Notes: Palmerton Library, Book Case 1, Shelf 3

Binder

The work plan for assessing pollutants in the surface and ground water and evaluating alternatives for remediation.

B&V Waste Science and Technology Corp. Palmerton Zinc Pile Site Remedial Investigation/Feasibility Study Groundwater/Surface Water Operable Unit- Scope of Work. 1993. Philadelphia, Pennsylvania, B&V Waste Science and Technology Corp.

Ref Type: Report

Ref ID: 303

Keywords: Feasibility Study/Groundwater/OU 4/Palmerton/Palmerton Zinc Pile Superfund Site/Remediation/Surface Water/Remedial Investigation/Feasibility Study/RI/FS/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Water

Notes: Palmerton Library, Book Case 1, Shelf 2

"This work plan defines the scope of work for the Remedial Investigation/Feasibility Study (RI/FS) for the Palmerton Zinc Pile Groundwater/Surface Water Operable Unit (Palmerton GW/SW Operable Unit). A brief description of the site, a discussion of the authority for the work, and explanations of the purpose and scope of the work plan and RI/FS are provided." Report includes numerous tables and figures which depict data.

B&V Waste Science Technolgy Corp. Palmerton Zinc Pile Site Remedial Investigation/Feasibility Study Groundwater/Surface Water Operable Unit. 1993. Philadelphia, PA.

Ref Type: Report

Ref ID: 12

Keywords: Feasibility Study/Groundwater/OU 4/Palmerton/Palmerton Zinc Pile Superfund Site/Remediation/Surface Water/Remedial Investigation/Feasibility Study/RI/FS/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Water

Notes: Palmerton Library, Book Case 1, Shelf 6

Stack of loose papers

"This work plan defines the scope of work for the Remedial Investigation/Feasibility Study (RI/FS) for the Palmerton Zinc Pile Groundwater/Surface Water Operable Unit (Palmerton GW/SW Operable Unit). A brief description of the site, a discussion of the authority for the work, and explanations of the purpose and scope of the work plan and RI/FS are provided."

Baker, Dale E. and Mark E. Bowers. "Human Health Effects of Cadmium Predicted from Growth and Composition of Lettuce in Gardens Contaminated by Emissions from Zinc Smelters." Trace Substances in Environmental Health 12 (1988).

Ref ID: 395

Keywords: Cadmium/heavy metals/Public Health/Soil/Vegetation/Palmerton/Metals

Notes: Located in the Grey Binder- Palmerton Borough Studies 1983 to 1996 in the Palmerton Library, Book Case 1, Shelf 1

A study of heavy metals in garden soils and the effects the metals had on dietary diseases among humans.

Baker, Dale E. "Interdependence of Zinc, Cadmium, and Lead in Soils of Palmerton Related to Health of Plants, Animals, and Humans." No Journal Given (1991).

Ref ID: 396

Keywords: Animal Toxicity/Cadmium/heavy metals/Lead/Palmerton/Phytotoxicity/Public Health/Soil/Vegetation/Zinc/Metals

Notes: Found in the Grey Binder- Palmerton Borough Studies 1983 to 1996 at the Palmerton Library, Book Case 1, Shelf 1

A study of heavy metals in garden soils and the effects the metals had on humans' diets.

Baker, E. L., et al. "A nationwide survey of heavy metal absorption in children living near primary copper, lead, and zinc smelters." American Journal of Epidemiology 4.106 (1977): 261-73.

Ref ID: 502

Keywords: Copper/heavy metals/Lead/Public Health/Zinc

Barnes, John H. and W. D. Sevon. The Geological Story of Pennsylvania. Harrisburg, Pennsylvania: Pennsylvania Geological Survey, 2002.

Ref ID: 180

Keywords: Geology/Pennsylvania/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

Book provides information on the geology of the Lehigh Gap in Pennsylvania.

Bethlehem Steel. Steelmaking and the Environment. 2009. Bethlehem, Pennsylvania, Bethlehem Steel.

Ref Type: Catalog

Ref ID: 197

Keywords: Bethlehem/Bethlehem Steel/History/Pollution/Palmerton/Basic Information/Water

Notes: Palmerton Library, Book Case 3, Shelf 6

Booklet contains basic information about pollution, specifically focusing on the air and water pollution produced by Bethlehem steel. Also includes basic information on recycling and solving future environmental problems.

Bevanger, K. and H. Broseth. "Impact of Power Lines on Bird Mortality in a Subalpine Area." Animal Biodiversity and Conservation (2004).

Ref ID: 214

Keywords: Birds/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

"Four sections of power lines, amounting to 4,000 km, in a subalpine area of southern Norway were patrolled from April 1989 to June 1995 to record birds killed when colliding with the overhead wires."

Bevanger, Kjetil. "Biological and Conservation Aspects of Bird Mortality Caused By Electricity Power Lines: A Review." Elsevier Science Ltd (1997).

Ref ID: 213

Keywords: Birds/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

"Empirical data and theoretical considerations indicate that species with high wing loading and low aspect run a high risk of colliding with power lines. These birds are characterised by rapid flight, and the combination of heavy body and small wings restricts swift reactions to unexpected obstacles. When the number of reported collision victims is considered relative to the abundance and population size of the species concerned, some Galliformes, Gruiformes, Pelecaniformes and Ciconiiformes species seem to appear in disproportionately high numbers. In contrast, species frequently affected by electrocution particularly seems to involve Ciconiiformes, Falconiformes, Strigiformes and Passeriformes. An alarmingly large number of species with endangered and vulnerable status are identified among the victims, but there are insufficient data at present for judging the significance of mortality caused by power lines at the population level."

Beyer, N. M, G. W. Miller, and E J. Cromartie. "Contamination of the O2 soil horizon by zinc smelting and its effect on woodlouse survival." Journal of Environmental Quality.13 (1984).

Ref ID: 491

Keywords: heavy metals/Soil/Wildlife/Zinc



Beyer, W. N. "The smoke that settled over Palmerton." New Jersey Audubon Newsletter 3 (1983): 14-16.

Ref ID: 244

Keywords: Animal Toxicity/Palmerton/Phytotoxicity/Public Health/Wildlife/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Zinc smelter

Notes: Lehigh Gap Nature Center- Papers from box and the LGNC Computer

Article details the health effects of the zinc smelters on forests, wildlife, domestic animals, and humans.

Beyer, W. N. and A. Anderson. "Toxicity to wood lice of zinc and lead oxides added to soil litter."

Ambio.14 (1985).

Ref ID: 490

Keywords: heavy metals/Lead/Soil/Wildlife/Zinc

Notes: Article provides information on the effects of soil contaminated with zinc and lead oxides on wood lice.

Beyer, W. N., et al. "Metal contamination of wildlife living near two zinc smelters." Environ.Pollut.Ser.A Ecol.Biol. 38 (1985): 63-86.

Ref ID: 240

Keywords: Animal Toxicity/Blue Mountain/Cadmium/Copper/General Information/heavy metals/Lead/Phytotoxicity/Plants/Soil/Vegetation/Wildlife/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Vertebrates

Notes: Lehigh Gap Nature Center- Papers from box

A study of the effects of lead, zinc, cadmium, and copper in vegetation and wildlife found on Blue Mountain. Studies were conducted with soils, plants, invertebrates, and vertebrates. Study contains tables depicting data.

Beyer, W. N. "Damage to the forest ecosystem of Blue Mountain from zinc smelting." Trace Substances in Environmental Health 22 (1989): 249-62.

Ref ID: 241

Keywords: Animal Toxicity/Blue Mountain/Ecosystem/General

Information/Phytotoxicity/Soil/Vegetation/Wildlife/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Contamination/Zinc smelter

Notes: Lehigh Gap Nature Center- Papers from box and LGNC Computer

Article details the effects of contamination from the zinc smelters on soil, plant, and animal communities and contains tables regarding data.

---. "Hazards to Wildlife from Soil-Borne Cadmium Reconsidered." Journal of Environmental Quality 5.29 (2000): 1380-84.

Ref ID: 503

Keywords: Cadmium/heavy metals/Soil/Wildlife

Beyer, W. Nelson and Gerald Storm. "Ecotoxicological Damage from Zinc Smelting at Palmerton, Pennsylvania." Handbook of Ecotoxicology (1995): 596-608.

Ref ID: 253

Keywords: Palmerton/Reclamation/Soil/Vegetation/Wildlife/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Ecosystem/Erosion

Notes: Lehigh Gap Nature Center- Papers from box

Information regarding the damage zinc smelting has on the ecosystem, and more specifically the vegetation, soil and litter communities, and wildlife. Also contains information on the challenges of fixing the erosion problems and revegetating the mountain. Article contains graphs and tables displaying the results of the study.

Bingham, Vicki. "Student and Professor Represent Moravian at the Nation's Capital." In Common- The News and Information Bulletin of Moravian College and Moravian Theological Seminary 15 May 2009.

Ref ID: 217

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Media/Lehigh Gap/Succession/Superfund/Superfund Site

Notes: Lehigh Gap Nature Center- Papers from box

An article about a Moravian College student, Sarabeth Brockley, who presented her poster titled

"Analysis of Plant Succession at the Lehigh Gap- a Superfund Site Undergoing Restoration" in Washington D.C. at the Posters on the Hill session conducted by the Council on Undergraduate Research.

Birkbeck, Matt. "Five companies will pay \$21.4 million for damage from years of zinc smelting at Palmerton." The Morning Call 3 Aug. 2009.

Ref ID: 542

Keywords: Palmerton/Palmerton Zinc/Palmerton Zinc Pile/Palmerton Zinc Pile Superfund Site/Pennsylvania/Superfund/Superfund Site/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center and Internet:

[http://www.mcall.com/news/local/all\\_5zinc\\_803\\_cn,0.4701369.story](http://www.mcall.com/news/local/all_5zinc_803_cn,0.4701369.story)

An article about the five companies who will pay the damage for the zinc smelting at the Palmerton Zinc Pile Superfund Site. Companies include CBS Operations, Inc., TCI Pacific Communications, Inc., CBS.Westingtonhouse of Pa, Inc., HH Liquidating Corp., and HRD Liquidating Corp.

Black & Veatch Special Projects Corporation. Draft of the Final Feasibility Study Report for the Palmerton Zinc Site- Residential Soil and Household Dust Operable Unit (OU 3). 1999. Palmerton, Pennsylvania.

Ref Type: Report

Ref ID: 3

Keywords: Community Soils/EPA/Feasibility Study/Household Dust/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund/Superfund Site/Hazardous Substances/U.S.EPA/Human Health

Notes: Palmerton Library, Book Case 1, Shelf 4

Binder

"The Palmerton Zinc Superfund Site Operable Unit #3 (community soils) consists of the Borough of Palmerton, the Village of Aquashicola, and other residential areas of Lower Towamensing township exhibiting elevated levels of hazardous substances from the zinc processing activities in

Palmerton. Black and Veatch Special Projects Corporation has been tasked by the U.S.EPA with writing the Operable Unit #3 Feasibility Study. This feasibility study is conducted to identify methods that may be implemented to reduce human health risks." This draft feasibility study includes six possible actions that could be taken to remediate the soil and household dust in Palmerton. Report includes tables and figures depicting data.

Black & Veatch Special Projects Corporation. Draft Final Feasibility Study Report for the Palmerton Zinc Site Residential Soil and Household Dust Operable Unit (OU 3). Palmerton, Pennsylvania. 1999.

Ref Type: Report

Ref ID: 340

Keywords: EPA/Feasibility Study/Hazardous Substances/heavy metals/Household Dust/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Soil/Zinc/Palmerton Zinc/Palmerton Zinc Superfund Site/Superfund/Superfund Site/Community Soils/U.S.EPA/Human Health

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

"The Palmerton Zinc Superfund Site Operable Unit #3 (community soils) consists of the Borough of Palmerton, the Village of Aquashicola, and other residential areas of Lower Towamensing township exhibiting elevated levels of hazardous substances from the zinc processing activities in Palmerton. Black and Veatch Special Projects Corporation has been tasked by the U.S.EPA with writing the Operable Unit #3 Feasibility Study. This feasibility study is conducted to identify methods that may be implemented to reduce human health risks." The study includes six possible actions that could be taken to remediate the soil and household dust in Palmerton. Report includes tables and figures which depict data.

Black & Veatch Special Projects Corporation. Draft of the Final Feasibility Study Report for the Palmerton Zinc Site Residential Soil and Household Dust Operable Unit (OU 3). 1999. Philadelphia, Pennsylvania, Black & Veatch Special Projects Corporation.

Ref Type: Report

Ref ID: 191

Keywords: Community Soils/EPA Hazardous Substances/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Zinc/Palmerton Zinc/Palmerton Zinc Superfund Site/Superfund/Superfund Site/Soil/Hazardous Substances/EPA/Feasibility Study/Human Health/Remedial Action/Map

Notes: Palmerton Library, Book Case 3, Shelf 5

Binder

"The Palmerton Zinc Superfund Site Operable Unit #3 (community soils) consists of the Borough of Palmerton, the Village of Aquashicola, and other residential areas of Lower Towamensing Township exhibiting elevated levels of hazardous substances from the zinc processing activities in Palmerton. Black & Veatch Special Projects Corp. has been tasked by the U.S. EPA with writing the Operable Unit #3 Feasibility Study. This feasibility study is conducted to identify methods that may be implemented to reduce human health risks." This report includes information on remedial action, six alternative actions to reduce risk to humans, tables, maps, and figures that display data, and more.

Black & Veatch Special Projects Corporation. Feasibility Study Report for the Palmerton Zinc Site- Residential Soil and Household Dust Operable Unit (OU 3). 2000. Palmerton, Pennsylvania.

Ref Type: Report

Ref ID: 1

Keywords: Community Soils/EPA/Hazardous Substances/Household Dust/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund/Superfund Site/U.S.EPA/Feasibility Study/Human Health

Notes: Palmerton Library, Book Case 1, Shelf 4

Binder

"The Palmerton Zinc Superfund Site Operable Unit #3 (community soils) consists of the Borough of Palmerton, the Village of Aquashicola, and other residential areas of Lower Towamensing township exhibiting elevated levels of hazardous substances from the zinc processing activities in Palmerton. Black and Veatch Special Projects Corporation has been tasked by the U.S.EPA with writing the Operable Unit #3 Feasibility Study. This feasibility study is conducted to identify

methods that may be implemented to reduce human health risks." The study includes six possible actions that could be taken to remediate the soil and household dust in Palmerton. Report includes tables and figures depicting data.

Black & Veatch Special Projects Corporation. Feasibility Study Report for the Palmerton Zinc Site Residential Soil and Household Dust Operable Unit (OU 3). Palmerton, Pennsylvania. 2000.

Black & Beatch Special Projects Corporation.

Ref Type: Report

Ref ID: 342

Keywords: Community Soils/EPA/Hazardous Substances/heavy metals/Household Dust/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Superfund/Zinc/Palmerton Zinc/Palmerton Zinc Superfund Site/Superfund Site/U.S.EPA/Feasibility Study/Human Health

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

"The Palmerton Zinc Superfund Site Operable Unit #3 (community soils) consists of the Borough of Palmerton, the Village of Aquashicola, and other residential areas of Lower Towamensing township exhibiting elevated levels of hazardous substances from the zinc processing activities in Palmerton. Black and Veatch Special Projects Corporation has been tasked by the U.S.EPA with writing the Operable Unit #3 Feasibility Study. This feasibility study is conducted to identify methods that may be implemented to reduce human health risks." The study includes six possible actions that could be taken to remediate the soil and household dust in Palmerton. Report includes tables and figures depicting data.

Blangger, Tim. "Eleven Years After Being Declared a Superfund Site, the Subject Remains an Emotional One." The Morning Call 23 Sept. 1993.

Ref ID: 229

Keywords: Lehigh Gap/Media/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/The New Jersey Zinc Company/Lehigh Gap Nature Center/Zinc/Superfund Site

Notes: Lehigh Gap Nature Center- Papers from box

This newspaper article describes the mixed reactions of the citizens of Palmerton to the zinc company and the Lehigh Gap being designated as a Superfund site.

Blasland, Bouck and Lee Inc. Explanatory Cover Notes for Tables Hypothetical Risks Re-calculated Accounting for Metals Recycling via Plant Uptake Palmerton Zinc Site Ecoloam Area. 2005.

Ref Type: Report

Ref ID: 134

Keywords: Ecoloam/heavy metals/Palmerton Zinc Superfund Site/Public Health/Lehigh Gap/Lehigh Gap Nature Center/Metals/Remediation/Warm Season Grasses/Grasses/Soil

Notes: Lehigh Gap Nature Center

The document provides tables and explanations regarding the hazards of exposure to metals in the Ecoloam remediation area and warm season grass remediation area. Tables also show the concentration of select metals in earthworm tissue, soil samples, grasses, and leaves.

Blasland, Bouck and Lee Inc. Responses to Comments on WIC Test Plot Reports Draft. 2005. Blasland, Bouch, and Lee, Inc.

Ref Type: Report

Ref ID: 450

Keywords: Lehigh Gap Nature Center/Public Health/Vegetation/Human Health/Risk Assessment

Notes: LGNC Computer

Report

Blasland, Bouck, and Lee's responses to the comments on the WIC Test Plot Reports, including information on human health, the ecological risk assessment, test plot vegetation, and more.

Blasland, Bouck and Lee Inc. Explanatory Cover Notes for Tables Palmerton Zinc Site Ecoloam Area and Warm Season Grass Area. 2005.

Ref Type: Report

Ref ID: 135

Keywords: Animal Toxicity/Ecoloam/Grasses/heavy metals/Palmerton Zinc Pile Superfund Site/Phytotoxicity/Soil/Vegetation/Warm Season Grasses/Wildlife/Lehigh Gap/Lehigh Gap Nature

Center/Remediation/Metals

Notes: Lehigh Gap Nature Center

The document provides tables and explanations regarding various data from the Ecoloam and warm season grass remediation areas. Tables show the concentration of select metals in soil, grasses, tree leaves, and animal tissue. Tables also contain data on the soil macroinvertebrate community, small mammal trapping results, comparisons of select metals in small mammals, exposure calculations for ecological receptors, and hazard quotients for ecological receptors.

Blasland, Bouck and Lee Inc. Final Vegetation Assessment- Appendices. 2006.

Ref Type: Report

Ref ID: 457

Keywords: Lehigh Gap Nature Center/Vegetation

Notes: LGNC Computer

Document includes the following appendices from the Final Vegetation Assessment: WIC Ground-Applied Area, NPS- Managed Lands, Photograph Logs, Methods, WIC Tree Seed Plot, NPS Area 1, NPS Area 2, NPS Area 3, NPS Area 4, Ground Cover Analysis Equipment, and Additional Plant Species Observed.

Bornschein, Robert L. Bornschein Presentation: Leading Lead Expert. 1-12-1993.

Ref Type: Catalog

Ref ID: 293

Keywords: heavy metals/Lead/Palmerton/Public Health/Soil/Soil Sampling/Risk Assessment

Notes: Palmerton Library, Book Case 1, Shelf 2

Binder

An evaluation of the risk assessment of the dust and soil sampling for lead in Palmerton, including a report by Dr. R. L. Bornschein.

Bornschein, Robert L. Review of CDM Data Set. 2009.

Ref Type: Catalog

Ref ID: 309



Keywords: Palmerton/Palmerton Environmental Task Force/Public Health/Risk Assessment

Notes: Palmerton Library, Book Case 1, Shelf 3

Blue booklet

Comments by Dr. Bornschein on the CDM Risk Assessment, related studies, and communications from Palmerton Environmental Task Force.

Borough of Palmerton Emergency Planners. Hazardous Materials Off-Site Response Plans. 1992.

Ref Type: Report

Ref ID: 186

Keywords: Emergency Response Plan/Hazardous Substances/Palmerton/Public

Health/Zinc/Water/Zinc Corporation of America/Superfund

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder

Includes emergency off-site response plans for the Palmerton Sewer Treatment Plant, La Roche Industries, Inc., Palmerton Water Company, Palmerton Memorial Park Association, Wild Creek Treatment Plant, and the Zinc Corporation of America. All of the off-site response plans were "developed in accordance with the provisions of Superfund Amendments and Reauthorization Act of 1986 Title III, by the Local Emergency Planning Committee for the Emergency Planning District of Carbon County."

Boyce, W. C. and Shepard C.L. "Lead L-Shell X-Ray Fluorescence Losses in Paint Films and Correction Factors." No Journal Given (1993).

Ref ID: 436

Keywords: heavy metals/Lead/Paint/Public Health/Risk Assessment/Public/Public

Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"A method for making a baseline areal density calibration and measuring L-shell losses through multiple layers of lead-free films." Article includes tables and graphs which depict the data.

Boyd, Robert S. The Defense Hypothesis of Elemental Hyperaccumulation: Status, Challenges, and New Directions. 3-29-2007. Springer Science and Business Media.

Ref Type: Report

Ref ID: 369

Keywords: Arsenic/Cadmium/heavy

metals/Hyperaccumulation/Media/Phytotoxicity/Vegetation/Zinc/Plants/Hyperaccumulators/Lehigh Gap/Lehigh Gap Nature Center

Abstract: "Elemental hyperaccumulation may have several functions, including plant defense against natural enemies. A total of 34 studies, including 72 experimental tests, have been conducted to date. At least some tests have demonstrated defense by hyperaccumulated As, Cd, Ni, Se and Zn, but relatively few plant taxa and natural enemies have been investigated. Defense by hyperaccumulated Ni has been shown for most leaf/root chewing herbivores and pathogens tested (20 of 26 tests) but not for herbivores of other feeding modes (1 of 8 tests). Most tests (5 of 6) using Ni concentrations below accumulator levels found no defensive effect, and the single test using plants in the accumulator range also found no effect. For Zn, mixed results have been reported for both hyperaccumulator (3 of 6 tests showed defense) and accumulator levels (3 of 4 tests showed defense). These tests have focused exclusively on leaf chewing/scraping herbivores: no herbivores of other feeding modes, or pathogens, have been tested. Both hyperaccumulator and accumulator concentrations of Se generally have shown defensive effects (12 of 14 tests). Most (75%) of these positive results used plants with accumulator Se concentrations. The three tests of Cd showed defensive effects in two cases, one for hyperaccumulator and one for sub-accumulator Cd concentrations. Arsenic has been tested only once, and was found effective against a leaf-chewing herbivore at a concentration much less than the hyperaccumulator level. Defense studies have used a variety of experimental approaches, including choice and no-choice experiments as well as experiments that use artificial diet or growth media. Investigations of hyperaccumulation as a defense against natural enemies have led to two emerging questions. First, what is the minimum concentration of an element sufficient for defense? Evidence suggests that plants other than hyperaccumulators (such as

accumulators) may be defended by elements against some natural enemies. Second, do the effects of an element combine with the effects of organic defensive compounds in plants to produce enhanced joint defensive effects? Recent investigation of this "joint effects hypothesis," using Ni and secondary plant compounds in artificial insect diet, has demonstrated joint effects. Initial answers to both these questions suggest that defensive effects of elements in plants are more widespread than previously believed. These results also suggest an evolutionary pathway by which elemental hyperaccumulation may have evolved from accumulation. In this "defensive enhancement" scenario, defensive benefits of elevated levels of elements may have led to stepwise increases in element concentrations that further magnified these benefits. This series of steps could have led to increased accumulation, and ultimately hyperaccumulation."

Notes: Lehigh Gap Nature Center Computer

Bradley, M. R., et al. "Zinc in Plants." New Phytologist 173 (2007): 677-702.

Ref ID: 547

Keywords: Cadmium/Hyperaccumulators/Plants/Soil/Zinc

Abstract: "Zinc (Zn) is an essential component of thousands of proteins in plants, although it is toxic in excess. In this review, the dominant fluxes of Zn in the soil-root-shoot continuum are described, including Zn inputs to soils, the plant availability of soluble Zn<sup>2+</sup> at the root surface, and plant uptake and accumulation of Zn. Knowledge of these fluxes can inform agronomic and genetic strategies to address the widespread problem of Zn-limited crop growth. Substantial within-species genetic variation in Zn composition is being used to alleviate human dietary Zn deficiencies through biofortification. Intriguingly, a meta-analysis of data from an extensive literature survey indicates that a small proportion of the genetic variation in shoot Zn concentration can be attributed to evolutionary processes whose effects manifest above the family level. Remarkable insights into the evolutionary potential of plants to respond to elevated soil Zn have recently been made through detailed anatomical, physiological, chemical, genetic and molecular characterizations of the brassicaceous Zn hyperaccumulators *Thlaspi*

*caerulescens* and *Arabidopsis halleri*."

Brock, F., et al. Eastern Pennsylvania Birding & Wildlife Guide. Harrisburg, Pennsylvania: Pennsylvania Department of Conservation and Natural Resources, 2009.

Ref ID: 178

Keywords: Birding/Ecology/Field Guide/Ornithology/Pennsylvania/Wildlife/Lehigh Gap/Lehigh Gap Nature Center/Amphibians

Notes: Lehigh Gap Nature Center

"This guide focuses primarily on birding, however" there is also information on amphibians, reptiles, mammals, butterflies, dragonflies, and other forms of wildlife found in thirteen counties in eastern Pennsylvania.

Brown, Linda Morris, Linda M. Pottner, and William J. Blot. "Lung Cancer in Relation to Environmental Pollutants Emitted from Industrial Sources." Environmental Research 34 (1983): 250-61.

Ref ID: 252

Keywords: Palmerton/Palmerton Citizens/Public Health/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Zinc smelter/Pennsylvania/Pollutants

Notes: Lehigh Gap Nature Center- Papers from box and LGNC Computer

A study regarding the health of residents who lived near the zinc smelters in Palmerton, Pennsylvania. Article focuses specifically on the effects of pollutants and their potential for lung cancer. Contains graphs and tables displaying the results of the study.

Brown, S. L., et al. "Zinc and Cadmium Uptake by *Thlaspi caerulescens* and *Silene vulgaris* in Relation to Soil Metals Soil pH." Journal of Environmental Quality (1994).

Ref ID: 400

Keywords: Cadmium/heavy

metals/Hyperaccumulation/Palmerton/Remediation/Soil/Vegetation/Zinc/Plants/Phytoremediation

Notes: Found in the Grey Binder- Palmerton Borough Studies 1983 to 1996 at the Palmerton Library, Book Case 1, Shelf 1

"Metal tolerant hyperaccumulator plants may be useful to phytoremediate contaminated soils. To evaluate agronomic management practices to maximize phytoremediation, two metallophytes, *Thlaspi caerulescens* J. and C. Presl (Zn hyperaccumulator) and *Silene vulgaris* (Moench) Garcke L. (indicator) were compared to 'Rutgers' tomato (*Lycopersicon esculentum* L.) in a pot study to assess Zn and Cd uptake patterns in relation to soil pH. Soils used for the study were gathered at three different sites in the vicinity of an old Zn smelter in Palmerton, PA..." Article contains tables and graphs which depict the data.

Buchauer, Marilyn. "Contamination of Soil and Vegetation Near a Zinc Smelter by Zinc, Cadmium, and Lead." Environmental Science and Technology 2 (1973): 131-35.

Ref ID: 251

Keywords: heavy metals/Lead/Lehigh Gap Wildlife Refuge/Palmerton/Palmerton Zinc Pile Superfund Site/Soil/Vegetation/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Contamination/Metals/Zinc smelter

Notes: Lehigh Gap Nature Center- Papers from box

Report regarding a study of the contamination in the soil and vegetation at the Lehigh Gap, due to heavy metals emitted from the zinc smelters in Palmerton. Report includes tables and graphs regarding the data from the study.

Buchauer, Marilyn Jordan. "Effects of Zinc and Cadmium Pollution on Vegetation and Soils." Diss. Rutgers University, 1971.

Ref ID: 272

Keywords: Cadmium/heavy metals/Lehigh Gap/Phytotoxicity/Vegetation/Zinc/Palmerton/Metals/Plants/Pollution/Lead/Copper

Notes: Palmerton Library, Book Case 1, Shelf 1

Spiral bound booklet

"This thesis was submitted to The Graduate School of Rutgers University in partial fulfillment of the requirements for the degree of Doctor of Philosophy. It investigates the fate of emitted heavy metals, studies the effects of zinc and cadmium on vascular plants, and evaluates the relative

importance of pollution and fire as casual agents of the vegetation damage at Lehigh Gap."

Paper contains great figures on zinc, cadmium, lead and copper levels.

Butte-Silver Bow Department of Health and Department of Environmental Health, University of Cincinnati.

The Butte-Silver Bow County Environmental Health Lead Study- Final Report. 1992.

Ref Type: Report

Ref ID: 283

Keywords: Environmental Health/Lead/Public Health/Superfund/Palmerton/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 2

Spiral-bound booklet

Study of the health of a residents living near the Silver Bow Creek and contiguous portions of the upper Clark Fork River Superfund site in Montana.

Carline, R. F. and Jobis, G. J. Final Report for Research Work Order #20, Effects of heavy metal contamination on aquatic fauna in the vicinity of Palmerton, Pennsylvania smelters. 1989. University Park, Pennsylvania, PA Cooperative Fish and Wildlife Research Unit, The Pennsylvania State University.

Ref Type: Report

Ref ID: 492

Keywords: Aquatic/heavy metals/Palmerton/Pennsylvania/Wildlife

---. "Assessment of aquatic animal communities in the vicinity of the Palmerton, Pennsylvania zinc smelters." Environmental Toxicology and Chemistry 12 (1993): 1661-70.

Ref ID: 267

Keywords: Animal Toxicity/Aquatic/Palmerton/Wildlife/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A study of the effects of zinc smelting on aquatic animals including macroinvertebrates and fish populations in Palmerton. Article contains tables that depict data.

Casteel, Stan W. Bioavailability of Lead in Soil Samples from New Jersey Zinc NPL Site- Palmerton, PA.  
1996.

Ref Type: Report

Ref ID: 333

Keywords: Animal Toxicity/Bioavailability/heavy metals/Lead/Palmerton/Public Health/Soil/Soil  
Sampling/Superfund/Zinc/Superfund Site/Pennsylvania

Notes: Palmerton Library- Book Case 1- Shelf 4

"A study using young swine as test animals was performed to measure the gastrointestinal absorption of lead from two soil samples from the New Jersey Zinc Superfund site located in Palmerton, Pennsylvania. Young swine were selected for use in the study primarily because the gastrointestinal physiology and overall size of young swine are similar to that of young children, who are the population of prime concern for exposure to soil lead."

CBS Operations Inc. 2006 Vegetation Assessment. 2006. Palmerton, Pennsylvania, Blasland, Bouck,  
and Lee, Inc.

Ref Type: Report

Ref ID: 137

Keywords: Blue Mountain/Grasses/OU 1/Palmerton/Palmerton Zinc Pile Superfund  
Site/Reclamation/Soil/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/OU/OU1

Notes: Lehigh Gap Nature Center

This report summarizes "vegetation assessment activities conducted in 2006 on Operable Unit #1 (OU 1), an approximate 2,000 acre-area of Blue Mountain located south of Palmerton. The U.S. EPA's selected remedy for OU-1 consists of soil amendment applications and revegetation activities on affected areas." Report also includes tables on ground-applied area cover, tree seed plot germination results, grass species composition results, seedling germination results, and grass species composition results. Also includes figures on OU-1 location, vegetation assessment areas, vegetation cover analysis, and germination and vegetation cover analysis.

CDM Federal Programs. Palmerton Zinc Site Final Responsiveness Summary. 9-30-1996. CDM Federal Programs.

Ref Type: Report

Ref ID: 320

Keywords: EPA/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Risk Assessment/Zinc/OU3/Palmerton Zinc/Palmerton Zinc Site

Notes: Palmerton Library, Book Case 1, Shelf 3

Bound booklet

"This Responsiveness Summary addresses comments received by EPA from interested parties regarding the risk assessment for OU3 at the Palmerton Zinc Site. This Responsiveness Summary is divided into two sections: A.) Responsiveness Summary, and B.) Responses to Comments Received on the Final Draft Technical Approach for Risk Assessment. Comments received by EPA on the Swine Study are not included in this Final Responsiveness Summary."

CDM Federal Programs Corporation. Palmerton Zinc Pile- OU 2 Administrative Record File Volume V. 1-11-1988. CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 76

Keywords: OU 2/Palmerton Citizens/Palmerton Superfund Site/Public Health/Palmerton/Superfund/Superfund Site

Notes: Palmerton Library, Book Case 2, Shelf 6

Binder contains information on ways to inform the Palmerton community about Operable Unit 2 and the Palmerton Superfund Site.

CDM Federal Programs Corporation. Palmerton Home Clean Up 1992. 1992.

Ref Type: Report

Ref ID: 282

Keywords: Dust Sampling/Paint Sampling/Palmerton/Public Health/Paint

Notes: Palmerton Library, Book Case 1, Shelf 2



Binder

Contains sampling test procedures for home dust and paint in Palmerton. The binder also contains a letter dated October 10, 1991 from Amy Barnett to Roy L. Smith that summarizes the test results of the Palmerton Home Clean-Up.

CDM Federal Programs Corporation. Remedial Planning Activities at Selected Uncontrolled Hazardous Substances Disposal Sites in a Zone for EPA Regions VI, VII, & VIII, Draft- Baseline Risk Assessment for Lead, Expedited Response Action, Priority Soils Operable Unit- Silver Bow Creek/Butte Area NPL Site, Butte, Montana. 2-11-1994. Golden, Colorado, CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 304

Keywords: EPA/Hazardous Substances/heavy metals/Lead/Public Health/Soil/Superfund/Palmerton/Superfund Site/Baseline Risk Assessment/Risk Assessment/Human Health/Health Risks

Notes: Palmerton Library, Book Case 1, Shelf 2

Stack of papers attached by binding

"Silver Bow Creek and contiguous portions of the upper Clark Fork River in Montana were listed as a Superfund site in 1983 by the U.S. Environmental Protection Agency (EPA) under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The site extends from Butte, Montana to Warm Springs Ponds. The Silver Bow Creek/Butte Area Superfund site was not added until 1987. This baseline risk assessment (RA) evaluates potential human health risks associated with exposure to lead (or Pb) in the residential areas of the Butte Priority Soils OI (BPSOU) in accordance with Section 300.430(d) of the National Contingency Plan (NCP) and assumes a no action alternative."

CDM Federal Programs Corporation. Draft Final Risk Assessment Report For the Palmerton Zinc Site- Palmerton, Pennsylvania. 1997. Wayne, Pennsylvania, CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 297

Keywords: Ecosystem/heavy metals/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Risk Assessment/Zinc/Baseline Risk Assessment/Palmerton Zinc/Palmerton Zinc Site/Pollutants

Notes: Palmerton Library, Book Case 1, Shelf 2

Binder

A baseline risk assessment for Operable Unit 3 at the Palmerton Zinc site. Includes information regarding exposure of pollutants to the ecosystem, a toxicity assessment, risk characterization, a list of uncertainties, and numerous tables and figures which correspond with the data.

CDM Federal Programs Corporation. Final Risk Assessment Report for the Palmerton Zinc Site. 1998.

Wayne, Pennsylvania, CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 47

Keywords: OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Public Comments/Public Health/Risk Assessment/Uranium/Human Health/Metals/Soil/Water/Baseline Risk Assessment/OU/Pennsylvania/Lead/Public

Notes: Palmerton Library, Book Case 2, Shelf 3

Binder

"The purpose of this risk assessment is to estimate potential adverse effects to human health from exposure to metals present in soil, water, and dust in Palmerton and surrounding areas; and uranium and other radioisotopes at the east plant...This baseline risk assessment focuses exclusively on Operable Unit 3 (The Borough of Palmerton and surrounding areas impacted by contaminants from air deposition) using data collected during past field investigations for this OU, air quality data collected by the Pennsylvania Department of Environmental Resources,...data from an exposure study for lead conducted by the University of Cincinnati, and data collected by ORNL regarding the uranium storage area." Binder also includes public comments regarding the risk assessment.

CDM Federal Programs Corporation. Final Risk Assessment for the Palmerton Zinc Site. 1998. Wayne, Pennsylvania, CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 307

Keywords: OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Risk Assessment/Baseline Risk Assessment/OU/Palmerton Zinc/Zinc

Notes: Palmerton Library, Book Case 1, Shelf 2

"A baseline risk assessment to characterize site risk for Operable Unit (OU) 3 at the Palmerton Zinc site."

CDM Federal Programs Corporation. Palmerton Zinc Site- Final Response to Comments on Draft Final Assessment. 6-23-1998. CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 299

Keywords: EPA/Palmerton/Palmerton Citizens/Palmerton Zinc Pile Superfund Site/Public Health/Risk Assessment/Palmerton Zinc/Palmerton Zinc Site/Zinc

Notes: Palmerton Library, Book Case 1, Shelf 2

Prepared by CDM Federal in response to the U.S. EPA's comments regarding the Palmerton Zinc Site Draft of the Final Risk Assessment.

CDM Federal Programs Corporation. Palmerton Zinc OU2 Site Administrative Record File Volume IIIC. 1998. Wayne, Pennsylvania, CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 46

Keywords: Administrative Record File/OU 3/Palmerton Zinc Pile Superfund Site/Risk Assessment/Palmerton/Baseline Risk Assessment/Palmerton Zinc/Zinc/CDM Federal Programs Corporation/EPA

Notes: Palmerton Library, Book Case 2, Shelf 2

Binder

"A baseline risk assessment to characterize site risk for Operable Unit 3 at the Palmerton Zinc site." Assessment is conducted by CDM Federal Programs Corporation for the U.S. EPA Region III.

CDM Federal Programs Corporation. Palmerton Zinc Site Field Trip Report- Final Report. 2009.

Washington, D.C., CDM Federal Programs Corporation.

Ref Type: Report

Ref ID: 56

Keywords: Dust Sampling/Paint Sampling/Palmerton Zinc Pile Superfund Site/Public Health/Soil Sampling/Water Sampling/Palmerton/Water/Soil/Paint/Palmerton Zinc/Palmerton Zinc Site/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 4

Binder

The report documents field sampling activities from dust, water, soil, and paint sampling at residences in the vicinity of the Palmerton zinc site, "and presents analytical results and field observations for the environmental sampling effort. This report does not include the health study results and does not correlate environmental results with biological sample results."

Center for Disease Control. Preventing Lead Poisoning in Young Children. 1991. Centers for Disease Control.

Ref Type: Report

Ref ID: 163

Keywords: Hazardous Substances/Lead/Public Health/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 2

Stack of papers

This report provides information about preventing and diagnosing lead poisoning and also explains ways to manage lead hazards in a community.

Chaney, R. L., M. H. Lee, and J. J. Murray. "Response of Yellow Nutsedge, Barley, Lettuce, Soybean, Little Bluestem, Canada Bluegrass, and Cultivars of Tall Fescue, Red Fescue, Kentucky Bluegrass, and Perennial Ryegrass to Excessive Sewage-Sludge Applied Soil Zinc in an Acidic

Soil." No Journal Given (1989).

Ref ID: 397

Keywords: heavy metals/Phytotoxicity/Soil/Vegetation/Palmerton/Metals

Notes: Found in the Grey Binder- Palmerton Borough Studies 1983 to 1996 at the Palmerton Library, Book Case 1, Shelf 1

A study of yellow nutsedge, barley, lettuce, soybean, little bluestem, Canada bluegrass, and cultivars of tall fescue, red fescue, Kentucky bluegrass, and perennial ryegrass and their tolerance in soils contaminated with heavy metals. Article includes numerous tables to display the data.

Chaney, R. L. ""Zinc Phytotoxicity" Chapter 10." Proceedings of the International Symposium on "Zinc in Soils and Plants" (1993).

Ref ID: 398

Keywords: heavy metals/Phytoremediation/Phytotoxicity/Soil/Zinc/Palmerton

Notes: Found in the Grey Binder- Palmerton Borough Studies 1983 to 1996 in the Palmerton Library, Book Case 1, Shelf 1

"After 'natural' phytotoxicity from Al or Mn in strongly acidic soil, Zn phytotoxicity is the most extensive microelement phytotoxicity, far more important than Cu, Ni, Co, Cd, or other metals." Article covers the physiological aspects of Zn phytotoxicity, crop differences in susceptibility to Zn phytotoxicity, use of chelator buffering to study Zn at phytotoxic levels, and the potential for phytoremediation of Zn contaminated soils. The article includes graphs of data.

Chaney, Rufus L., Beyer, Nelson W., Gifford, Carol H., and Sileo, Louis. Effects of Zinc Smelter Emissions on Farms and Gardens at Palmerton, PA. *Journal of Environmental Quality* 32, 834-40. 2003.

Ref Type: Abstract

Ref ID: 394

Keywords: Animal Toxicity/Cadmium/heavy metals/Palmerton/Phytotoxicity/Soil/Vegetation/Wildlife/Zinc/Contamination/Metals

Abstract: "In 1979, before the primary Zn smelter at Palmerton was closed due to excessive Zn and Cd emissions and change in the price of Zn, we were contacted by a local veterinarian regarding death of fous (young horses) on farms near the smelter. To examine whether Zn or Cd contamination of forage or soils could be providing potentially toxic levels of Zn or other elements in the diets of fous, we measured metals in forages, soils, and feces of grazing livestock on two farms near Palmerton. The farms were about 2.5 and about 10 km northeast of the East stack. Soils, forages, and feces were greatly increased in Zn and Cd. Soil, forage, and fecal Zn were near 1,000 mg/kg and Cd, 10-20 mg/kg at farm A (2.5 km) compared to normal background levels of 43 mg Zn and 0.2 mg Cd/kg, respectively, Liver and kidney of cattle raised on Farm A were increased in Zn and Cd, indicating that at least part of the Zn and Cd in smelter contaminated forages was bioavailable.

During the farm sampling, we obtained soil from one garden in Palmerton within 2100 m of the primary (West) smelter. The Borough surrounds the smelter facility in a valley. Because soil Cd was near 100 mg/kg, we sampled garden soils and vegetables from over 40 gardens in 6 randomly selected blocks and in rural areas at different distances from the smelter during September, 1980. All homes were contacted on each sampled block. Nearly all homes had some garden, while at least 2 appeared to grow over 50% of their annual vegetable and potato consumption. Palmerton garden soils averaged 76 mg Cd/kg and 5830 mg Zn. Gardeners had been taught to add limestone and organic fertilizers to counteract yield reduction and chlorosis due to the excessive soil Zn. Gardens with over 5000 mg Zn/kg were nearly all over pH 7, and many were calcerous. Because the smelter had not yet ceased operations in 1980, crops could have been polluted by aerosol Zn and Cd emitted by the smelter. Crop Zn and Cd were extremely high, about 100 times normal Cd levels. In more distant gardens, soil metals were not so high, and gardeners had not added limestone. Bean rotated with the potatoes and leafy vegetables often suffered chlorosis and visible yield reduction. Potatoes contained up to 6mg Cd/kg dry wt. compared to background 0.20 mg.kg DW."

Notes: LGNC Computer

Chris J. West (Frank and West Environmental Engineers, Inc. Palmerton Site- Operable Unit 1 2004 Total Cover Analysis, Root Analysis and Description of WIC Test Plots. 10-15-2004.

Ref Type: Personal Communication

Ref ID: 445

Keywords: heavy metals/Palmerton/Reclamation/Soil/Vegetation

Notes: LGNC Computer

A letter with attached data on the 2004 cover analysis conducted between August 16 - 20, 2004.

Cockerell, T. D. A. North American Bees of the Genus *Nomada*. 2003. Philadelphia, Pennsylvania, Academy of Natural Sciences.

Ref Type: Report

Ref ID: 505

Keywords: Lehigh Gap Wildlife Refuge/Wildlife/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A scientific reporting of genus nomada bees.

Colman, John T., Ruoff, William L., and Llados, Fernando T. Risk Assessment "Toxicological Interaction of Cadmium, Lead and Zinc"- Draft Report & Comments. 1995.

Ref Type: Report

Ref ID: 334

Keywords: Cadmium/Hazardous Substances/heavy metals/Lead/Public Health/Zinc/Palmerton

Notes: Palmerton Library, Book Case 1, Shelf 4

"This study was conducted to investigate the possibility that an environmental mixture containing lead, cadmium, and zinc represents a less severe health hazard than a mixture containing equivalent amounts of lead and cadmium only."

Colorado Department of Health- Division of Disease Control and Environmental Epidemiology, University of Colorado at Denver Center for Environmental Science, and Agency for Toxic Substances and Disease Registry- Public Health Services- U.S. Department of Health and Human Services.

Leadville Heavy Metals Exposure Study. 1989.

Ref Type: Report

Ref ID: 276

Keywords: Arsenic/Cadmium/heavy metals/Lead/Mining/Public

Health/Soil/Superfund/Palmerton/Metals/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 1

Spiral bound booklet

"Leadville, a mountain community in Colorado, has been the site of extensive mining, milling, and smelting of precious and base metals since 1860. Soil surveys done in connection with a remedial investigation of a Superfund site (Yak Tunnel/California Gulch) found elevated levels of lead (Pb), arsenic (As) and cadmium (Cd) in surface soils in residential areas. A study of heavy metal exposure to individuals living in Leadville, Colorado is described in this report."

Conrad, Bruce. Aspen, Colorado Peer Review Panel- Smuggler's Cover Superfund Site 11-93. 1993.

Ref Type: Catalog

Ref ID: 296

Keywords: Superfund/Palmerton/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 2

Spiral booklet

Notes from the Technical Advisory Committee Meeting on Smuggler Mountain Superfund Site in Aspen, Colorado.

Cooke, J. A. and Johnson, M. S. Ecological Restoration of Land with Particular Reference to the Mining of Metals and Industrial Minerals: A Review of Theory and Practice. 3-11-2002.

Ref Type: Report

Ref ID: 370

Keywords: Ecology/Ecosystem/heavy

metals/Mining/Reclamation/Soil/Vegetation/Ecosystems/Restoration/Succession/Metals/Lehigh

Gap/Lehigh Gap Nature Center

Abstract:



"Mining causes the destruction of natural ecosystems through removal of soil and vegetation and burial beneath waste disposal sites. The restoration of mined land in practice can largely be considered as ecosystem reconstruction - the reestablishment of the capability of the land to capture and retain fundamental resources. In restoration planning, it is imperative that goals, objectives, and success criteria are clearly established to allow the restoration to be undertaken in a systematic way, while realizing that these may require some modification later in light of the direction of the restoration succession. A restoration planning model is presented where the presence or absence of topsoil conserved on the site has been given the status of the primary practical issue for consideration in ecological restoration in mining. Examples and case studies are used to explore the important problems and solutions in the practice of restoration in the mining of metals and minerals. Even though ecological theory lacks general laws with universal applicability at the ecosystem level of organization, ecological knowledge does have high heuristic power and applicability to site-specific ecological restoration goals. However, monitoring and management are essential, as the uncertainties in restoration planning can never be overcome. The concept of adaptive management and the notion that a restored site be regarded as a long-term experiment is a sensible perspective. Unfortunately, in practice, the lack of post-restoration monitoring and research has meant few opportunities to improve the theory and practice of ecological restoration in mining."

Notes: Lehigh Gap Nature Center Computer

Cooper, Susan B. and Pete J. Dunn. Magnificent Rocks: The Story of Mining, Men, and Minerals at Franklin and Sterling Hill, New Jersey. Book Distributor: Newton, New Jersey, 1997.

Ref ID: 74

Keywords: Geology/History/Mining/The New Jersey Zinc Company/Zinc/Palmerton

Notes: Palmerton Library, Book Case 2, Shelf 6

Book provides information on iron mining and processing, zinc mining, processing zinc ores, zinc-mining communities, geology, and mineralogy. Book is written for students, especially in grades 4-8.

Cosier, Susan. "Whiz Kids." Audubon Magazine 2009.

Ref ID: 218

Keywords: Birds/Ecology/Education/Lehigh Gap Wildlife Refuge/Media/Wildlife/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

An article about the Lehigh Gap Naturalists' Club, which consists of about ten members ranging in age from ten to sixteen. They participate in various research projects at the Lehigh Gap including studying honeybees, monarch butterflies, and birds.

County of Carbon- Emergency Management Agency. Carbon County Emergency Operations Plan. 1998.

Nesquehoning, Pennsylvania, County of Carbon Emergency Services.

Ref Type: Report

Ref ID: 183

Keywords: Carbon County/Emergency Response Plan/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder

This report was written "to develop, implement, and maintain a comprehensive emergency operations plan that provides guidance for a coordinated effort of preparation, response, and recovery activities to meet the threats posed by all natural and man-made hazards within Carbon County."

Cummings/Riter Consultants, INC. Remedial Design Work Plan Operable Unit Three (Community Soils)

Palmerton Zinc Pile Superfund Site. 8-28-2002. Monroeville, Pennsylvania, Cummings/Riter Consultants, Inc.

Ref Type: Report

Ref ID: 69

Keywords: Horsehead Industries/OU 3/Palmerton/Public Health/Superfund/OU3

Notes: Palmerton Library, Book Case 2, Shelf 5

"Cummings/Riter Consultants, Inc., on behalf of Horsehead Industries, Inc..., has prepared this

Remedial Design Work Plan for Operable Unit 3. Included as part of the RD Work Plan are the OU-3 Database, Access Solicitation, Quality Assurance Project Plan, Field Sampling Plan, and Health and Safety Plan."

Danielson, Stentor. Environmental Justice at the Palmerton Zinc Superfund Site, Palmerton, Pennsylvania.2009.

Ref ID: 479

Keywords: Environmental Justice/EPA/Palmerton/Palmerton Environmental Task Force/Palmerton Zinc Pile Superfund Site/Superfund/Pennsylvania

Notes: Internet: <http://debitage.net/academic/Palmerton.pdf>

This article explains the environmental justice issue in the town of Palmerton, Pennsylvania, with specific mention to the U.S. EPA and the Palmerton Environmental Task Force. The end of the article contains a helpful works cited list.

del Moral, R. "Limits to convergence of vegetation during early primary succession." Journal of Vegetation Science 18 (2007): 479-88.

Ref ID: 373

Keywords: Ecology/Ecosystem/Succession/Vegetation/Lehigh Gap/Lehigh Gap Nature Center

Abstract: "Questions: Primary succession, measured by changes in species composition, is slow, usually forcing a chronosequence approach. A unique data set is used to explore spatial and temporal changes in vegetation structure after a 1980 volcanic eruption. On the basis of data from a transect of 20 permanent plots with an altitudinal range of 250 m sampled through 2005, two questions are asked: Do changes along the transect recapitulate succession? Do plots converge to similar composition over time?"

Location: A ridge between 1218 and 1468 m on Mount St. Helens, Washington, USA.

Methods: Repeat sampling of plots for species cover along a 1-km transect. Floristic changes were characterized by techniques including DCA, clustering and similarity.

Results: Species richness and cover increased with time at rates that decreased with increasing elevation. The establishment of *Lupinus lepidus* accelerated the rate of succession and may

control its trajectory. Diversity ( $H'$ ) at first increased with richness, then declined as dominance hierarchies developed. Primary succession was characterized by overlapping phases of species assembly (richness), vegetation maturation (diversity peaks, cover expands) and inhibition (diversity declines). Each plot passed through several community classes, but by 2005, only four classes persisted. Succession trajectories (measured by DCA) became shorter with elevation. Similarity between groups of plots defined by their classification in 2005 did not increase with time. Similarity within plot groups converged slightly at the lower elevations. Despite similarities between temporal and spatial trends in composition, trajectories of higher plots do not recapitulate those of lower plots, apparently because *Lupinus* was not an early colonist. Any vegetation convergence has been limited to plots that are in close proximity."

Notes: Lehigh Gap Nature Center Computer

Department of Environmental Health- University of Cincinnati. Palmerton, PA Childhood Lead Exposure

Study. 1994. Cincinnati, University of Cincinnati.

Ref Type: Report

Ref ID: 336

Keywords: Carbon County/EPA/heavy metals/Housedust/Lead/Paint

Sampling/Palmerton/Palmerton Environmental Task Force/Public Health/Soil Sampling/Paint/Soil

Notes: Palmerton Library, Book Case 1, Shelf 4

Spiral-bound booklet

A study with the following objectives: "1) To develop exposure data for use by the PETF to guide its development of a lead exposure reduction plan for the borough of Palmerton and perhaps Carbon County. 2) To better characterize risks from residential lead paint and to measure its impact on house dust and lead in children's blood. 3) To determine if 'neighbor helping neighbor' and/or EPA's soil replacement activities are having a measureable and beneficial impact on reducing the amount of lead dust in homes and the levels of lead in children. 4) To identify families with one or more children with blood lead levels greater than 10 ug/dl and to reduce their exposures by the most effective method for that family and residence using strategies developed by the PETF."

Department of Environmental Health- University of Cincinnati. Quality Assurance/Quality Control Report-  
Sample Collection and Analysis. 1996. Cincinnati, University of Cincinnati.

Ref Type: Report

Ref ID: 337

Keywords: EPA/heavy metals/Housedust/Lead/Paint/Palmerton/Public Health/Soil

Notes: Palmerton Library, Book Case 1, Shelf 4

Clear folder

A study with the following objectives: "1) To develop exposure data and to determine the community mean blood lead level for children under 72 months of age. 2) To determine the relationships between lead in paint, house dust, soil, and lead in children's blood. 3) To determine if a local activity (soil treatment), referred to as "neighbor helping neighbor" and/or EPA's soil replacement activities have had a measurable impact on reducing the amount of lead dust in homes and the levels of lead in children's blood. 4) To identify families with one or more children with lead levels greater than 10 ug/dl for follow up activities aimed at reducing their exposures by the most effective methods for that family and residence." Report includes tables and figures depicting data.

Department of Environmental Health, University of Cincinnati. Draft Palmerton, PA Childhood Lead  
Exposure Study. 1994. Cincinnati, University of Cincinnati.

Ref Type: Report

Ref ID: 326

Keywords: Carbon County/Household Dust/Lead/Paint/Palmerton/Palmerton Environmental Task  
Force/Public Health/Soil

Notes: Palmerton Library, Book Case 1, Shelf 3

Binder

A study with four main objectives: "1) To develop exposure data for use by the PETF to guide its development of a lead exposure reduction plan for the borough of Palmerton and perhaps Carbon County, 2) To better characterize risks from residential lead paint and to measure its impact on house dust and lead in children's blood, 3) To determine if "neighbor helping neighbor" and/or

EPA's soil replacement activities are having a measurable and beneficial impact on reducing the amount of lead dust in homes and the levels of lead in children, and 4) To identify families with one or more children with blood lead levels greater than 10ug/dl and to reduce their exposure by the most effective method for that family and residence using strategies developed by the PETF."

Appendices:

- A. Project Team Qualifications
- B. Protocol for Field Census
- C. Consent Forms
- D. Data Collection Forms
- E. Environmental Sample Collection Protocol
- F. Individual Result Report Forms
- G. Overview of Blood Lead QC Plan

Department of Environmental Resources. Public Water Supply Manual- Part II, Community System

Design Standards. 1986. Department of Environmental Resources.

Ref Type: Catalog

Ref ID: 158

Keywords: Public Health/Water/Palmerton/Public/Water Quality

Notes: Palmerton Library, Book Case 3, Shelf 2

Manual

"The Public Water Supply Manual is a comprehensive publication designed to provide necessary, useful information to public water suppliers concerning Pennsylvania's safe drinking water program. When completed in its entirety, the manual should contain essentially everything the public water supplier will need to know about the safe drinking water program, including: design and construction standards; water quality standards; monitoring; reporting and operating requirements; emergency measures; and information on government agency programs and contacts."

Dickerson, John A. Owner of the Finger Lakes Conservation Services. Finger Lakes Conservation Services Letter. Frank, Jim Frank and West Environmental Engineers Inc. 12-25-2005.

Ref Type: Personal Communication

Ref ID: 469

Keywords: Conservation/Lehigh Gap Wildlife

Refuge/Palmerton/Reclamation/Vegetation/Wildlife/Lehigh Gap

Notes: LGNC Computer

This letter gives the Finger Lakes Conservation Services' comments on the "revegetation issues at the Lehigh Gap Wildlife Refuge and other denuded lands in the Palmerton vicinity."

Ditzler, Joseph. "Revegetation Experiment Could Restore Palmerton Forest Cover." Not listed 8 Nov. 1996.

Ref ID: 234

Keywords: Blue Mountain/Ecoloam/EPA/Media/Palmerton/Reclamation/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/Blue Mountain

Notes: Lehigh Gap Nature Center- Papers from box

An article about the scientist John Oyler, who worked with the U.S. EPA and supervised the revegetation project on Blue Mountain that used sewage sludge and ash as a compost.

DLK. Palmerton Zinc Ecological Risk Assessment. 1-21-2005.

Ref Type: Report

Ref ID: 455

Keywords: Ecology/Grasses/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Risk Assessment/Vegetation/Warm Season Grasses/Wildlife/Zinc/Palmerton Zinc/Remediation/Human Health

Notes: LGNC Computer

Report

"A brief review of the ecological risk assessment portion of the draft document entitled Palmerton Zinc Warm Season Grass Remediation Area 2003 Data and Risk Assessment Update. The date

of this document is 12/30/03. The human health risk assessment and validity of data used in the risk assessments (ecological and human health) were not the focus of this review. Also, this review applies only to the two small mammals because insufficient information has been provided to evaluate the risk to the carnivorous bird (northern harrier)."

Doherty, Jennifer. Preliminary report on the mycorrhizal fungi associated with *Deschampsia flexuosa*.

2007. University of Pennsylvania.

Ref Type: Report

Ref ID: 127

Keywords: heavy metals/Lehigh Gap Wildlife Refuge/Mycorrhizal

Fungi/Soil/Vegetation/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Fungi/Plants

Notes: Lehigh Gap Nature Center Computer

Report provides information on mycorrhizal fungi and plants in high zinc soils.

Dunn, Pete J. Franklin and Sterling Hill, New Jersey: the World's Most Magnificent Mineral Deposits.

Volume 3. Franklin, New Jersey: The Franklin-Ogdensburg Mineralogical Society, 1995.

Ref ID: 66

Keywords: Geology/Horsehead Industries, Inc./The New Jersey Zinc

Company/Palmerton/Franklin and Sterling Hill

Notes: Palmerton Library, Book Case 2, Shelf 5

This book is about Franklin and Sterling Hill in Ogdensburg, New Jersey. It contains information on phyllosilicates, tectosilicates, elements, sulfides, arsenides, antimonides, sulfosalts, oxides, halides, and carbonates in the area.

---. Franklin and Sterling Hill, New Jersey: the World's Most Magnificent Mineral Deposits, Volume 4.

Franklin, New Jersey: The Franklin-Ogdensburg Mineralogical Society, 1995.

Ref ID: 65

Keywords: Geology/Horsehead Industries Inc./The New Jersey Zinc

Company/Palmerton/Franklin and Sterling Hill

Notes: Palmerton Library, Book Case 2, Shelf 5



This book is about Franklin and Sterling Hill in Ogdensburg, New Jersey. It contains information on the minerals, neosilicates, sorosilicates, cyclosilicates, and inosilicates-chain silicates in the area.

---. Franklin and Sterling Hill, New Jersey: the World's Most Magnificent Mineral Deposits, Volume 1.

Franklin, New Jersey: The Franklin-Ogdensburg Mineralogical Society, 1995.

Ref ID: 63

Keywords: Horsehead Industries,Inc./The New Jersey Zinc Company/Palmerton/Mining/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 5

Book contains information on the historical perspective of local iron mining and processing and zinc mining at Franklin or Sterling Hill in Ogdensburg New Jersey.

---. Franklin and Sterling Hill, New Jersey: the World's Most Magnificent Mineral Deposits, Volume 5.

Franklin, New Jersey: The Franklin-Ogdensburg Mineralogical Society, 1995.

Ref ID: 67

Keywords: Horsehead Industries,Inc./The New Jersey Zinc Company/Palmerton/Franklin and Sterling Hill

Notes: Palmerton Library, Book Case 2, Shelf 5

This book is about Franklin and Sterling Hill in Ogdensburg, New Jersey and contains information on sulfates, borates, tungstates, molybdates, arsenates, arsenites, phosphates, vanadates, and unnamed minerals.

---. Franklin and Sterling Hill, New Jersey: the World's Most Magnificent Mineral Deposits, Volume 2.

Franklin, New Jersey: The Franklin Ogdensburg Mineralogical Society, 1995.

Ref ID: 64

Keywords: Horsehead Industries,Inc./Mining/The New Jersey Zinc Company/Palmerton/Franklin and Sterling Hill/Geology

Notes: Palmerton Library, Book Case 2, Shelf 5

This book is about Franklin and Sterling Hill in Ogdensburg, New Jersey. It contains information on the culture, geology, and major zinc-mining companies in the area.

---. The Story of Franklin and Sterling Hill, Second Edition. Second ed. Franklin, New Jersey: The Franklin-Ogdensburg Mineralogical Society, 1997.

Ref ID: 152

Keywords: Franklin and Sterling Hill/Geology/History/Mining/The New Jersey Zinc Company/Palmerton/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 5

This book explains the history of Franklin and Sterling Hill in New Jersey and provides information about iron and zinc ores, mining companies, smelters, geology, and minerals.

---. Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1756-1900, Volume 1. Alexandria, Virginia: Dr. Pete J. Dunn, 2002.

Ref ID: 77

Keywords: Mining/The New Jersey Zinc Company/Palmerton/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 6

Book contains information on "iron processing and iron mining on and near Mine Hill in Franklin, and on and near Sterling Hill in Ogdensburg, the zinc deposits at Mine Hill and Sterling Hill, and the Ogden and Fowler families: lands, estates, and mineral rights."

---. Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1756-1900, Volume 4. Alexandria, Virginia: Pete J. Dunn, 2003.

Ref ID: 80

Keywords: The New Jersey Zinc Company/Palmerton/New Jersey Zinc Company/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 6

"Book contains information on the complex deedings at Sterling Hill, John S. Noble and the Noble Mine, Charles W. Trotter's mine at Sterling Hill, Moses Taylor's pivotal lawsuit, the liquidation of the New Jersey Zinc Company, and Moses Taylor and the New Jersey Zinc and Iron Company."

---. Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1756-1900, Volume 3. Alexandria, Virginia: Pete J. Dunn, 2003.

Ref ID: 79

Keywords: heavy metals/Mining/The New Jersey Zinc Company/Zinc/Palmerton/New Jersey Zinc Company

Notes: Palmerton Library, Book Case 2, Shelf 6

Book contains information on the New Jersey Zinc Company and zinc mining in New Jersey.

---. Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1756-1900, Volume 2. Alexandria, Virginia: Dr. Pete J. Dunn, 2003.

Ref ID: 78

Keywords: Mining/The New Jersey Zinc Company/Zinc/Palmerton/The New Jersey Zinc Company/New Jersey Zinc Company

Notes: Palmerton Library, Book Case 2, Shelf 6

Book contains information on the New Jersey Zinc Company and zinc mining in New Jersey.

---. Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1756-1900, Volume 6. Alexandria, Virginia: Pete J. Dunn, 2004.

Ref ID: 82

Keywords: Palmerton/The New Jersey Zinc Company/New Jersey Zinc Company/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 6

Book contains information on "Charles W. Trotter and the New Jersey Zinc Company: reformation lawsuit and final settlement, final litigations and the Great Consolidation, and the zinc towns of Franklin, Ogdensburg, and Palmerton."

---. Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1756-1900, Volume 5. Alexandria, Virginia: Pete J. Dunn, 2004.

Ref ID: 81

Keywords: The New Jersey Zinc Company/Palmerton/New Jersey Zinc Company/Zinc/Pennsylvania

Notes: Palmerton Library, Book Case 2, Shelf 6

Contains information on "the New Jersey Zinc Company and the New Jersey Zinc and Iron

Company after 1880, the north half of Mine Hill Farm and the Trotter leases, Pennsylvania intersects in Franklin, the travails of Charles W. Trotter and the Great Possession Lawsuit."

---. Prospectuses of 19th-Century Mining Companies at Franklin and Sterling Hill, New Jersey.

Alexandria, Virginia: Dr. Pete J. Dunn, 2004.

Ref ID: 202

Keywords: New Jersey Zinc Company/Palmerton/The New Jersey Zinc Company/Zinc/Paint

Notes: Palmerton Library, Book Case 3, Shelf 6

This book provides information on the New Jersey Zinc Company, the National Paint Company, the New Jersey Franklinite Company, the Consolidated Franklinite Company of New York, and the Jersey Franklinite Company.

---. Mine Hill in Franklin and Sterling Hill in Ogdensburg, Sussex County, New Jersey: Mining History, 1756-1900, Volume 7. Alexandria, Virginia: Pete J. Dunn, 2005.

Ref ID: 83

Keywords: Geology/Mining/The New Jersey Zinc Company/Palmerton

Notes: Palmerton Library, Book Case 2, Shelf 6

Book contains information on "post-consolidation activities: the Parker contract and residual mineral rights, James L. Curtis: the archetypical machinator, and sacred places and hallowed grounds: mines, miners, and mineral collectors."

---. Franklin and Sterling Hill, New Jersey: the World's Most Magnificent Mineral Deposits, First

Supplement. Frankin, New Jersey: The Franklin-Ogdensburg Mineralogical Society, 2009.

Ref ID: 59

Keywords: Geology/Mining/The New Jersey Zinc Company/Zinc/Palmerton

Notes: Palmerton Library, Book Case 2, Shelf 5

This book describes the chemical data for the east and west limbs of the Sterling Hill orebody, in Ogdensburg, New Jersey. The book also provides information on the Passaic Zinc Company and 19th-Century observations on geology and mining.

---. Franklin and Sterling Hill, New Jersey: the World's Most Magnificent Mineral Deposits, Second Supplement. Franklin, New Jersey: The Franklin-Ogdensburg Mineralogical Society, 2009.

Ref ID: 60

Keywords: Geology/Horsehead Industries,Inc./Mining/The New Jersey Zinc Company/Zinc/Palmerton/Franklin and Sterling Hill

Notes: Palmerton Library, Book Case 2, Shelf 5

This book describes the 19th-century metallurgical processing of ores and the process of zinc mining from Franklin and Sterling Hill in Ogdensburg, New Jersey. Book also includes observations of privately-reported exploration and geology.

Dyson, J. L. "Recumbent Folding in the Vicinity of Palmerton, Pennsylvania." Pennsylvania Academy of Science Proceedings, 1956. 137-41.

Ref ID: 172

Keywords: Blue Mountain/Erosion/Geology/Lehigh Gap/Palmerton/Pennsylvania

Abstract: "An apparent syncline plunging to the west and an adjacent anticline, both traceable along the strike for more than three miles, are actually part of the exposed inverted limb of a large recumbent anticline in which the strata have been rotated through an arc of more than 180 degrees. The normal limb has been removed by erosion. Axial plane cleavage formed early in the deformation and was rotated as folding progressed. That these features are a part of a much larger structure is indicated by overturned strata in Blue Mountain (Kittatinny) approximately two miles to the south."

Notes: Lehigh University, E.W. Fairchild-Martindale Library, Does not circulate

Notes: Information on the geology of the Lehigh Gap and Palmerton, Pennsylvania area.

Eckhart, Thomas D. The History of Carbon County, Volume 1. Lehighton, Pennsylvania: Thomas D. Eckhart and the Carbon County History Project, 1992.

Ref ID: 506

Keywords: History/Carbon County/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A book about the early history of Carbon County.

---. The History of Carbon County, Volume 2. Lehighton, Pennsylvania: Thomas D. Eckhart and the Carbon History Project, 1996.

Ref ID: 507

Keywords: History/Carbon County/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A book about the commercial history of Carbon County, focusing specifically on the transportation and industries in the County.

---. The History of Carbon County, Volume 3. Lehighton, Pennsylvania: Thomas D. Eckhart and the Carbon County History Project, 1997.

Ref ID: 508

Keywords: History/Carbon County/Mining/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A book about the commercial history of Carbon County, focusing primarily on the agriculture, mining, and zinc processing in the County.

---. The History of Carbon County, Volume 4. Lehighton, Pennsylvania: Thomas D. Eckhart and the Carbon History Project, 1999.

Ref ID: 509

Keywords: History/Carbon County/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A book about the history of the municipalities in Carbon County.

Ecology and Environment, Inc. and U.S.EPA. Sampling QA/QC Work Plan Palmerton Zinc Pile. 2009.

Ref Type: Catalog

Ref ID: 292

Keywords: Palmerton/Palmerton Citizens/Palmerton Zinc Pile Superfund Site/Public

Health/Zinc/Contamination/Pennsylvania

Notes: Palmerton Library, Book Case 1, Shelf 2

A research project to determine the presence of contamination in and around residences in Palmerton, Pennsylvania.

Edelman, W. T., I. van Beersum, and T. Jans. "Uptake of cadmium, zinc, lead and copper by earthworms near a zinc-smelting complex: Influence of soil pH and organic matter."

Bull. Environ. Contam. Toxicol. 30 (1983): 424-27.

Ref ID: 257

Keywords: Animal Toxicity/Cadmium/Copper/Lead/Soil/Wildlife/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A study of the pH and organic matter in soil and how it affects lumbricid earthworms' ability to accumulate cadmium, zinc, lead, and copper. Article contains tables that depict the data.

ENVIRON International Corporation. Site Investigation Work Plan Former New Jersey Zinc Company- West Plant- Palmerton, Pennsylvania. 2007. Princeton, New Jersey, ENVIRON International Corporation.

Ref Type: Report

Ref ID: 459

Keywords: Conservation/Contamination/heavy metals/Lead/Palmerton/The New Jersey Zinc Company/West Plant/Zinc/Remediation/Environmental Contamination

Notes: LGNC Computer

"This site investigation work plan has been prepared to support redevelopment planning for the West Plant property, to meet certain requirements under Pennsylvania's Land Recycling and Environmental Remediation Standards Act ("Act 2"), and ultimately lead to a release of liability for environmental contamination, if any, at the Site pursuant to Act 2. In addition, the proposed site investigation activities may address obligations, to the extent any exist, under the federal

Resource Conservation and Recovery Act (RCRA)." Provides numerous tables, graphs, and photographs depicting data.

Environmental News Science. \$40 million to Clean Pennsylvania Zinc Superfund Site. Environmental News Science, 2003.

Ref ID: 482

Keywords: Media/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/Palmerton Superfund Site/Superfund Site

Notes: Internet: <http://www.ens-newswire.com/ens/sep2003/2003-09-29-09.asp#anchor2>

An article from Environmental News Science regarding the \$40 million settlement that was established in 2003 to clean up the Palmerton Superfund Site.

EPA Region III, Hazardous Waste Management Division. Technical Guidance Manual for Risk Assessment. 2009.

Ref Type: Catalog

Ref ID: 294

Keywords: Hazardous Waste/Public Health/Risk Assessment/Palmerton

Notes: Palmerton Library, Book Case 1, Shelf 2

Clear covered and red backed folder

EPA's technical guidance manual for the risk assessment concerning exposure to toxics.

Epstein, Jack B. and Anita G. Epstein. "Geology of the Valley and Ridge Province Between Delaware Water Gap and Lehigh Gap, Pennsylvania." Geology of Selected Areas in New Jersey and Eastern Pennsylvania and Guidebook to Excursions. Ed. Seymour Subitzky. New Brunswick, New Jersey: Rutgers University Press, 1969. 132-205.

Ref ID: 173

Keywords: Geology/Lehigh Gap/Lehigh River

Notes: Moravian College's Reeves Library and Lehigh University's E.W. Fairchild-Martindale Library

Provides information on "the stratigraphy, structure, glacial geology, geomorphology, and



economic geology of Middle Ordovician through Middle Devonian rocks and overlying surficial deposits in the area between the Delaware and Lehigh Rivers, eastern Pennsylvania." Which "are so interrelated that these topics should not be considered separately."

Epstein, Jack B., W. D. Sevon, and J. Douglas Glaeser. Geology and Mineral Resources of the Lehighton and Palmerton Quadrangles, Carbon and Northampton Counties, Pennsylvania. 4th Series ed. Pennsylvania Geological Survey, 1974.

Ref ID: 132

Keywords: Carbon County/Geology/Lehigh County/Map/Northampton County

Notes: Lehigh Gap Nature Center and Lehigh's E.W. Fairchild Martindale Library

Describes the "nature and occurrence of rocks and unconsolidated surficial deposits present at and below the surface of a 112-square mile area in Carbon, Lehigh, and Northampton Counties. The rocks are a diverse assemblage of limestones, dolomites, shales, siltstones, sandstones, and conglomerates, whereas the unconsolidated deposits consist mainly of glacial till, various gravels, and material in man-made dumps." Book also includes a bedrock geologic map and a surficial geologic map.

Faust, Aaron. "Trail Towns: Palmerton Pennsylvania." A.T.Journeys 2008.

Ref ID: 235

Keywords: Media/Palmerton/Palmerton Zinc Pile Superfund Site/Reclamation/Recreation/Lehigh Gap/Lehigh Gap Nature Center/History/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund/Superfund Site/Remediation

Notes: Lehigh Gap Nature Center- Papers from box

This article explains the history of the Palmerton Zinc Pile Superfund Site and the remediation process and also discusses the hiking trails currently available on the Refuge property. Article has great images of different sites in Palmerton.

Fisher, G. "Soil Survey of Carbon County." USDA Soil Conservation Series, 1959.14 (1962).

Ref ID: 493

Keywords: Soil/Carbon County

Frank & West Environmental Engineers, Inc and West, Chris J. VP. Total Cover Analysis, Root Analysis, and Description of WIC Test Plots. 2009.

Ref Type: Personal Communication

Ref ID: 139

Keywords: Reclamation/Vegetation/Warm Season Grasses/Lehigh Gap/Lehigh Gap Nature Center/EPA

Notes: Lehigh Gap Nature Center

Letter to the EPA from Frank and West Environmental Engineers regarding root and total cover analysis and a description of the test plots. Includes attachments of cover analysis.

Frank and West Environmental Engineers, Inc. Blue Mountain Test Plot Plan for the 2003 Growing Season Palmerton Zinc Pile Site OU1. 3-11-2003. Frank and West Environmental Engineers, Inc.

Ref Type: Report

Ref ID: 136

Keywords: Blue Mountain/OU 1/Palmerton Zinc Pile Superfund Site/Reclamation/Vegetation/Blue Mountain/Soil/Soil Sampling/Erosion/Map/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

This report details the methodologies planned for remediating, by revegetation, a portion of the Blue Mountain. The report evaluates the 2003 growing season, identifies field test plots, and gives information on test plot soil sampling, test plot activities, growth observations, erosion and sediment control, identification of personnel, health and safety plans, materials handling plan, and a quality assurance and control plan. Includes a test plot location map, typical test plot layouts, test plot table, vegetative test plot application rate table, erosion and sediment control detail, Carbon Engineering, INC. erosion and sediment control plan, personnel resumes, and an organizational chart.

Frank and West Environmental Engineers, Inc. Palmerton OU-1 Wildlife Information Center Owned Land-Proposed 2005 Remedial Work. 1-2. 2005. Frank and West Environmental Engineers, Inc.

Ref Type: Report

Ref ID: 470

Keywords: Erosion/Lehigh Gap Nature Center/OU 1/Palmerton/Soil/Wildlife

Notes: LGNC Computer

"The objective of the 2005 remedial work proposed by Frank & West Environmental Engineers, Inc. (FWI) is to put into place erosion and sediment controls that will minimize the following:

- ~ Movement of soil off Wildlife Information Center property.
- ~ Overloading of the sediment control basins located along the upper railroad bed.
- ~ Further deepening of eroded channels and rills on Wildlife Information Center property."

Frank and West Environmental Engineers, Inc. Palmerton Revegetation Powerpoint. 2006.

Ref Type: Slide

Ref ID: 466

Keywords: Lehigh Gap/Lehigh Gap Wildlife Refuge/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/Wildlife/Palmerton Superfund Site/Superfund Site

Notes: LGNC Computer

A powerpoint presentation with 65 slides displaying pictures of the Palmerton Superfund Site in 2006.

Frank and West Incorporated. Palmerton Zinc Site OU 1- Blue Mountain Preliminary Remedial Action Design. 7-12-2005.

Ref Type: Report

Ref ID: 454

Keywords: Blue Mountain/OU 1/OU1/Palmerton/Palmerton Zinc Pile Superfund Site/Remediation/Soil/Remedial Action

Notes: LGNC Computer

"The purpose of this Preliminary Remedial Action Design (Preliminary Design) is to describe the Remedial Action (RA) that will be undertaken on privately owned land that is part of OU-1. The RA will consist of applying agricultural soil amendments and seed by ground and aerial

equipment to approximately 215 and 202 acres, respectively."

\*Includes tables and figures that display data.

Frank and West Incorporated. Palmerton Zinc Pile Site OU1 Blue Mountain Preliminary Remedial Action Design. 3-2-2006.

Ref Type: Catalog

Ref ID: 115

Keywords: Blue Mountain/Map/OU 1/Palmerton/Palmerton Zinc Pile Superfund

Site/Plants/Remediation/Soil/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/Remedial Action/OU1

Notes: Lehigh Gap Nature Center Computer

"The purpose of this Preliminary Remedial Action Design (Preliminary Design) is to describe the Remedial Action (RA) that will be undertaken on land in GA-1 (attachment A) that is part of OU-1. The RA will consist of applying agricultural soil amendments and seed by ground and aerial application equipment to approximately 215 and 202 acres, respectively. The acceptable standard for the ground applied acreage is 60% - 70% ground cover with live plants, with the overall goal of live plants to exceed 70%. The groundcover performance standard will be further discussed in the Vegetation Performance Evaluation Criterion and Procedure section of this Preliminary Design. The field work is proposed to commence on or about April 1, 2006. The goal is to complete the application on all 202 aerial acres by the end of the 2006 construction season and as much of the ground application as possible. The remaining ground application area will be completed in subsequent construction seasons. The privately owned land remaining to be either ground or aerially applied is detailed in maps provided in Attachments B and C." File also includes a map of Palmerton, a site map, and various other attachments.

Frank, James F President of Frank and West Environmental Engineers Inc. Palmerton Zinc Superfund Site- Submittal of Revised Test Plot Table and Test Plot Location Map. 2003.

Ref Type: Personal Communication

Ref ID: 142

Keywords: Map/OU 1/Palmerton Zinc Superfund Site/Lehigh Gap/Lehigh Gap Nature Center/EPA/Blue Mountain/Palmerton/Palmerton Zinc/Palmerton Zinc Pile/Palmerton Zinc Pile Superfund Site/Zinc/Superfund/Superfund Site

Notes: Lehigh Gap Nature Center

Letter to the EPA which includes the 2003 revised test plot table and the revised test plot location map for Operable Unit 1- Blue Mountain of the Palmerton Zinc Pile Superfund Site.

Freeman, G. B., et al. "Absolute bioavailability of lead acetate and mining waste lead in rats." Toxicology 91 (1993): 151-63.

Ref ID: 427

Keywords: Bioavailability/heavy metals/Lead/Mining/Soil/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"The primary purpose of this study was to generate data that could be used to determine the absolute bioavailability of lead using data from a previous study in which soil containing lead from mining waste was mixed with feed." Article includes tables and graphs that corresponds with the data.

Gardner, Dana. Techniques Used in the Reclamation of the Palmerton Zinc Smelter Site.2009.

Ref ID: 478

Keywords: Palmerton/Palmerton Zinc Pile Superfund Site/Reclamation/Zinc

Notes: Internet: <http://horticulture.cfans.umn.edu/vd/h5015/99fpapers/gardner.htm>

A paper that details the original revegetation efforts on the east side of the river - including species used. Includes some important references at end of article.

Gill, Douglas E., Blank, Peter, Parks, Jared, Guerard, Jason B., Lohr, Bernard, Schwartzman, Edward, Gruber, James G., Dodge, Gary, and Rewa, Charles A. Plants and Breeding Bird Response on a Managed Conservation Reserve Program Grassland in Maryland. 7-15-2007.

Ref Type: Report

Ref ID: 363

Keywords: Birds/Grassland/Ornithology/Vegetation/Wildlife/Conservation/Warm Season  
Grasses/Grasses/Succession/Lehigh Gap/Lehigh Gap Nature Center

Abstract:

"Currently over 14.6 million ha of land at an annual cost of US\$1.76 billion are enrolled in the Conservation Reserve Program (CRP). The habitat benefits of CRP frequently are lauded, but documentation that wildlife is responding as hoped is urgently needed. We evaluated plant and breeding bird responses to 92.4 ha of CRP grasslands at Chino Farms in northeastern Maryland, USA. In 1999 we seeded 12 contiguous CRP fields with 5 mixtures of warm-season grasses representing various growth-form heights in a replicated experimental design, and used mowing and topical herbicide applications to control noxious weeds and facilitate stand establishment. In 6 years cumulative plant species richness increased to 261, 105 of which were species exotic to the region. During the third growing season, we initiated a schedule of prescribed burning on a 3-year rotation to remove accumulated litter and to retard woody succession, and in 2003 we added additional management to control aggressive plant species. Several at-risk bird species colonized the restored grasslands in the first year and established sustainable breeding populations. We implemented a comprehensive observation and banding program, which included mapping male territories for selected bird species and recording nest locations. We marked 1,985 grasshopper sparrows (*Ammodramus savannarum*; GRSPs) in 7 years. Breeding GRSP populations ranged annually from 70 to 90 socially monogamous pairs with an additional 40 non-territorial males. Annual return rates in the last 5 years were 57% for adult males, 41% for adult females, and 12% for hatch-year individuals. Adults and young birds exhibited high site fidelity, but overgrown fields left unburned for 2-3 years were unpopulated by GRSPs but attracted several shrub-land bird species. Habitat preference for territories was influenced more by vegetation structure than by plant species composition. We recommend the management of grasslands restored for birds include spatial and temporal rotation of prescribed fire and herbicide applications to sustain vegetation physical structure rather than species composition. (WILDLIFE SOCIETY BULLETIN 34(4):944-956; 2006)"

Notes: Lehigh Gap Nature Center Computer

Gohre, Vera and Uta Paszkowski. "Contribution of the arbuscular mycorrhizal symbiosis to heavy metal phytoremediation." Planta (2006): 1115-22.

Ref ID: 375

Keywords: Ecosystems/heavy metals/Mycorrhizal Fungi/Phytoremediation/Pollutants/Public Health/Soil/Vegetation/Water/Lehigh Gap/Lehigh Gap Nature Center/Metals/Ecosystem/Human Health/Plants/Fungi

Abstract: Lehigh Gap Nature Center

"High concentrations of heavy metals (HM) in the soil have detrimental effects on ecosystems and are a risk to human health as they can enter the food chain via agricultural products or contaminated drinking water. Phytoremediation, a sustainable and inexpensive technology based on the removal of pollutants from the environment by plants, is becoming an increasingly important objective in plant research. However, as phytoremediation is a slow process, improvement of efficiency and thus increased stabilization or removal of HMs from soils is an important goal. Arbuscular mycorrhizal (AM) fungi provide an attractive system to advance plant-based environmental clean-up. During symbiotic interaction the hyphal network functionally extends the root system of their hosts. Thus, plants in symbiosis with AM fungi have the potential to take up HM from an enlarged soil volume. In this review, we summarize current knowledge about the contribution of the AM symbiosis to phytoremediation of heavy metals."

Gradient Corporation. An Evaluation of CDM's Palmerton Zinc Site Draft Final Risk Assessment Report. 12-5-1997. Sarasota, Florida, Gradient Corporation.

Ref Type: Report

Ref ID: 300

Keywords: EPA/heavy metals/Palmerton/Palmerton Zinc Pile Superfund Site/Risk Assessment/Superfund/Zinc/Palmerton Zinc/Palmerton Zinc Pile

Notes: Palmerton Library, Book Case 1, Shelf 2

Spiral-bound booklet

"Gradient Corporation has conducted an independent review of EPA's September 1997 Draft Final Risk Assessment (Draft RA) for the Palmerton Zinc Pile Superfund Site." Includes information on why the Draft RA is an "unusable tool for making remedial decisions" and provides recommendations on how to improve the Draft RA.

Gradient Corporation. Palmerton Zinc Site- Final Response to Comments on Draft Final Risk

Assessment. 6-23-1998. Gradient Corporation.

Ref Type: Report

Ref ID: 308

Keywords: Palmerton/Palmerton Zinc Pile Superfund Site/Risk Assessment/Superfund/Palmerton Zinc/Palmerton Zinc Pile/Zinc

Notes: Palmerton Library, Book Case 1, Shelf 2

"Gradient Corporation has conducted an independent review of EPA's September 1997 Draft Final Risk Assessment (Draft RA) for the Palmerton Zinc Pile Superfund site."

Gradient Corporation. Palmerton Zinc OU3 Site Administrative Record File Volume IIID. 6-23-1998.

Gradient Corporation.

Ref Type: Catalog

Ref ID: 43

Keywords: Administrative Record File/EPA/OU 3/Palmerton Zinc Pile Superfund Site/Palmerton/Risk Assessment/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund

Notes: Palmerton Library, Book Case 2, Shelf 2

Binder

Binder that includes "Gradient Corporation's independent review of the EPA's September 1997 Draft Final Risk Assessment for the Palmerton Zinc Pile Superfund Site."

Greenan, Aleel K. Identification of Genes Involved in Metal Transport of Plants. 4-2-2009. Urbana, Illinois, University of Illinois.

Ref Type: Report



Ref ID: 372

Keywords: heavy metals/Hyperaccumulators/Soil/Vegetation/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Metals/Plants/Remediation/Phytoremediation

Notes: Lehigh Gap Nature Center Computer

"Interestingly, most of Ni and zinc (Zn) hyperaccumulators belongs to one family, the Brassicaceae, which includes the well-studied *Thlaspi caerulescens* and *Arabidopsis halleri*. Hyperaccumulators such as these typically accumulate the metals in the aboveground biomass through bulk flow of the metals in the xylem from root to shoot. Prior to this, the metals must first be translocated from the root symplast into the xylem apoplast, and in most instances the transporter proteins involved in this process have not been identified. This is a saturable process limited not only by the number of transport proteins present, but also by the variation in the transporters with respect to transport rate, substrate affinity, and substrate specificity (for review, see Pilon-Smits, 2005). Another transport step occurs from the xylem into the leaf cells. At the tissue level, metal may be accumulated in the epidermis and trichomes, while at the cellular level, these excess metals are typically accumulated in the vacuole or cell wall. The metals are often bound by chelators, which are believed to play a role in detoxification of the metals (for review, see Peuke and Rennenberg, 2005; Haydon and Cobbett, 2007). The ability of plants to remove organic contaminants such as metals and accumulate them in aboveground biomass has been taken advantage of in the remediation of contaminated soils. However, not all metalhyperaccumulating plants have high biomass, a "requirement" for successful use of a plant for phytoremediation. Thus, an important question is what confers the ability to tolerate (elevated) levels of a metal that would be lethal or seriously inhibit the growth of a closely related species, or, more specifically, what makes a plant a hyperaccumulator?"

Groy, Jeff and Blasland, Bouck and Lee Inc. Data Summary- Spring/Seep Samples. Rigg, Dave. 12-20-2006.

Ref Type: Personal Communication

Ref ID: 458

Keywords: heavy metals/Surface Water/Water/Water Sampling/Metals

Notes: LGNC Computer

"The purpose of the surface water sampling event was to collect data regarding metals concentrations in springs and seeps along Blue Mountain." Report provides figures, tables, and photographs displaying the data.

Gulf and Western Industries, Inc. Gulf and Western Industries, Inc. 1967 Annual Report. Gulf and Western Industries, Inc. 1967.

Ref Type: Journal (Full)

Ref ID: 195

Keywords: Gulf and Western,Inc./Palmerston/Gulf and Western

Notes: Palmerston Library, Book Case 3, Shelf 6

Magazine provides information on Gulf and Western Industries including their shareholders and managers, their agricultural products and electronics, the financial highlights of 1967, their financial notes, the earning analysis, the ten-year financial highlights, charts depicting financial data, and more.

Gulf and Western Industries, Inc. Summary Annual Report: The Pension Plan of the New Jersey Zinc Company. 12-31-1977. Nashville, Tennessee, Gulf and Western Industries, Inc.

Ref Type: Report

Ref ID: 203

Keywords: Gulf and Western/The New Jersey Zinc Company/Zinc/Palmerston/New Jersey Zinc Company

Notes: Palmerston Library, Book Case 3, Shelf 6

Booklet

The summary annual report of the Pension Plan of the New Jersey Zinc Company "contains information relating to the assets and liabilities of the plan at December 31, 1977 and 1976 and changes in the fund balance for the years then ended."

Hall, J. L. "Cellular mechanisms for heavy metal detoxification and tolerance." Journal of Experimental Biology. 53 (2002).

Ref ID: 494

Keywords: heavy metals/Soil/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/Plants/Metals

Notes: Lehigh Gap Nature Center

An article about how plants adapt to heavy metals in the soil.

Hartwell, Tyler D., Handy, Robert W., Harris, Benjamin S., Williams, Steven R., and Gehlbach, Stephen H. Heavy Metal Exposure in Populations Living Around Zinc and Copper Smelters. 1993.

Ref Type: Report

Ref ID: 351

Keywords: Arsenic/Cadmium/Copper/heavy metals/Lead/Media/Palmerton/Pennsylvania/Public Health/Zinc/Zinc smelter

Notes: Palmerton Library, Book Case 1, Shelf 1

Found in binder titled "Palmerton Borough Studies 1983 to 1996"

"Arsenic, cadmium, and lead levels were determined simultaneously in multiple environmental media and human tissues in two zinc smelters (Batesville, Oklahoma and Palmerton, Pennsylvania) and two copper smelters (Ajo, Arizona and Anaconda, Montana) communities." Studies were done to determine the effects of heavy metal exposure on the human population. Report includes tables which depict the data.

Hawk Mountain Sanctuary. Nestboxes for American Kestrels. 1-7. 2005.

Ref Type: Report

Ref ID: 422

Keywords: American Kestrel/Birdbox/Birding/Birds/Ecology/Ornithology/Pennsylvania/Wildlife

Notes: LGNC Computer

"The American Kestrel is a small, predatory bird about the size of a Blue Jay. Once known as the Sparrow Hawk, this tiny raptor is not a hawk at all, but a small falcon that is closely related to the Peregrine Falcon. Once plentiful across the Pennsylvania countryside, the American Kestrel is now declining in the northeastern United States." This article provides information on the American kestrel and how to construct a nestbox.

Hoffman, John and Zika Wolfe. "Grasses Provide Beauty with Backbone." Nursery Management and Production 2009.

Ref ID: 220

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Media/Reclamation/Soil/Vegetation/Warm Season Grasses/Grasses

Notes: Lehigh Gap Nature Center- Papers from box

An article about the Lehigh Gap Nature Center restoring more than 400 acres of damaged land by planting native prairie grasses, including Big Blue Stem, Little Blue Stem, and Indian grass.

The grasses have been extremely effective because they are able to tolerate drought, low fertility, and varied soil conditions.

Holl, Karen and John Cairns, Jr. "Landscape Ecotoxicology." Handbook of Ecotoxicology. Ed. D. J.

Hoffman et al. 2 ed. Lewis Publishers, 2002. 219-32.

Ref ID: 544

Keywords: Palmerton/sandwort/Soil/Vegetation

Notes: The metal tolerant species in Palmerton soils are mentioned, including *Arenaria* (sandwort)

Holmgren, G. G. S., et al. "Cadmium, Lead, Zinc, Copper, and Nickel in Agricultural Soils of the United States of America." Journal of Environmental Quality 22 (2009): 335-48.

Ref ID: 405

Keywords: Cadmium/Copper/heavy metals/Lead/Map/Nickel/Soil/Zinc/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"Three thousand forty-five surface soil samples from 307 different soil series were analyzed for Pb, Cd, Zn, Cu, Ni, cation exchange capacity, organic C, and pH in the course of a study of trace element uptake by major agricultural crops." Article includes graphs and tables that display data and maps that show site locations.

Hoopes, R. E. "The Lehigh Gap Restoration Project: A dream coming true." Wildlife Activist.45 (2002): 4-7.

Ref ID: 526

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Reclamation/Wildlife Activist

Notes: Lehigh Gap Nature Center

Article provides information on the reclamation process at the Lehigh Gap, including information on the long term vision for the refuge, the people who are supervising the project, and the funding of the project.

---. "From idea to reality: The Wildlife Center's 2002 transition." Wildlife Activist.46 (2003): 4-8.

Ref ID: 528

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Reclamation/Vegetation/Warm Season Grasses/Wildlife Activist

Notes: Lehigh Gap Nature Center

Article provides detailed information on the reclamation process of the Lehigh Gap during the year of 2002.

---. "Lehigh Gap Wildlife Refuge is open for business; list of wildlife sightings." Wildlife Activist.47 (2003): 4-7.

Ref ID: 530

Keywords: Lehigh Gap/Lehigh Gap Wildlife Refuge/Wildlife/Wildlife Activist/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

An article about the wildlife seen on the Lehigh Gap Wildlife Refuge property and an accompanying list of all the wildlife sightings on the Refuge.

---. "A guide to the Lehigh Gap Wildlife Refuge." Wildlife Activist.48 (2003): 4-9.

Ref ID: 532

Keywords: Lehigh Gap/Lehigh Gap Wildlife Refuge/Recreation/Wildlife/Wildlife Activist/Lehigh

Gap Nature Center

Notes: Lehigh Gap Nature Center

Article provides information on the different trails at the Lehigh Gap Wildlife Refuge.

---. "Big day of birding at Lehigh Gap Wildlife Refuge." Wildlife Activist.50 (2004): 7-9.

Ref ID: 534

Keywords: Birding/Birds/Lehigh Gap/Lehigh Gap Wildlife Refuge/Ornithology/Wildlife/Wildlife Activist/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

An article about the "Big Day of birding" that took place from May 7 to May 8 2004. At this event, "birders counted 79 species of birds on the Lehigh Gap Wildlife Refuge, including four species recorded for the first time." Article includes a list of the birds that were spotted.

---. "Summer warblers at LGWR." Wildlife Activist.51 (2004): 7-8.

Ref ID: 536

Keywords: Birding/Birds/Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Ornithology/Wildlife/Wildlife Activist

Notes: Lehigh Gap Nature Center

An article about the warblers found on the Lehigh Gap Wildlife Refuge, including black and white warblers, wood thrush, buntings, ovenbirds, black-throated green warblers, prairie warblers, and worm-eating warblers.

---. "Lehigh Gap Wildlife Refuge species count increases." Wildlife Activist 49.7 (2004): 9.

Ref ID: 525

Keywords: Lehigh Gap/Lehigh Gap Wildlife Refuge/Reclamation/Wildlife/Wildlife Activist/Birds/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

Article provides information on the species found at the Lehigh Gap in 2004. "In our second year as caretakers of the Lehigh Gap Wildlife Refuge our inventory of wildlife species inhabiting or migrating through (or over) the refuge continues to increase. Since we first published the list of

wildlife sightings in the Summer of 2003 Activist, seven mammals, one fish, two reptiles, and 13 additional birds have been recorded."

Hoopes, Robert E. "Five Years Ago and Back to the Future: How the Lehigh Gap Restoration Project Turned Around A Stalled Superfund Initiative." Wildlife Activist.58 (2007).

Ref ID: 462

Keywords: General Information/Lehigh Gap/Lehigh Gap Wildlife Refuge/Palmerton/Palmerton Zinc Pile Superfund Site/Reclamation/Superfund/Wildlife/Restoration/Palmerton Superfund Site/Superfund Site

Notes: LGNC Computer

Information on the restoration of the Palmerton Superfund Site and establishing the Lehigh Gap Wildlife Refuge.

Superfund News. Dir. INC. Horsehead Industries. 2009

Ref ID: 14

Keywords: Horsehead Industries,Inc./Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/Video

Notes: Palmerton Library, Book Case 1, Shelf 6

"This video includes portions of a news program pertaining to Superfund issues which we believe may be of interest to Palmerton residents."

Horsehead Resource Development Co.Inc. Horsehead Resource Development Co., Inc.- News Release- Horsehead Responds to NEIC Report. 10-5-1995. Horsehead Resource Development Co. Inc.

Ref Type: Report

Ref ID: 316

Keywords: Horsehead Industries,Inc./Palmerton/Palmerton Superfund Site/Superfund/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 3

Horsehead Resource Development Company's response to the U.S. EPA's NEIC Source Identification Study regarding the Palmerton Superfund site.

Hosking, R. Factors contributing to defoliation and efforts to re-vegetate Blue Mountain in the vicinity of Palmerton, Pennsylvania. 2009.

Ref Type: Report

Ref ID: 510

Keywords: Blue Mountain/Palmerton/Pennsylvania/Reclamation/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A paper about the reclamation efforts on Blue Mountain.

Hosking, Robert H. Jr., McTish Kunkel and Associates Project Manager. EPA's Technical Assistance Grant the Year in Retrospect.2009.

Ref ID: 481

Keywords: EPA/Palmerton/Palmerton Citizens/Palmerton Zinc Pile Superfund Site/Superfund/Palmerton Superfund Site/Superfund Site

Notes: Internet: <http://www.palmertoncitizens.org/Technical%20Reviews/Retrospective.pdf>

A technical review report created by McTish, Kunkel, and Associates for the "Palmerton Citizens for a Clean Environment" in order to help them gain a better understanding of the Palmerton Superfund Site.

Hovis, Joseph and Swartz, Mark. Restoration of Eastern Native Grasslands and The Repatriation Of The Eastern Regal Fritillary Butterfly From The Last Viable Population At Fort Indiantown Gap, PA. 2007.

Ref Type: Report

Ref ID: 360

Keywords: Ecology/Grassland/Reclamation/Regal Fritillary/Lehigh Gap/Lehigh Gap Nature Center/Pennsylvania

Notes: Lehigh Gap Nature Center Computer

This report provides information on the regal fritillary butterfly and its grassland habitat at Fort Indiantown Gap in Pennsylvania.



Howe, Natalie and James C. Lendemer. "The Recovery of a Simplified Lichen Community Near the Palmerton Zinc Smelter." Diss. 2006.

Ref ID: 117

Keywords: Ecosystem/History/Lehigh Gap Wildlife

Refuge/Lichens/Palmerton/Pollution/Soil/Water/Lehigh Gap/Lehigh Gap Nature

Center/Lichen/Zinc/Zinc smelter/Pennsylvania

Abstract: "In a landmark study in 1972, Thomas H. Nash, III surveyed the lichen communities at the Lehigh Gap immediately downwind of a large-scale operating zinc smelter in Palmerton, Pennsylvania, and at the relatively unpolluted Delaware Water Gap. He found that the lichen cover and diversity were considerably lower in the highly contaminated soils of the Lehigh Gap, and concluded that lichen diversity had been severely negatively impacted by the air pollution emanating from the zinc smelter there. In 2006, we repeated Nash's study of lichens in the Lehigh Gap using the same methodology in order to see what changes had occurred in the intervening 34 years with cessation of zinc smelting in 1980. We found increased lichen cover and species diversity in comparing the data from 1972 and 2006. We conclude that the lichen community is recovering because of the presence of more lichen species and the higher lichen cover, and the composition of the lichen mycota."

Notes: Lehigh Gap Nature Center Computer

Notes: This thesis provides updated information on the lichen community at the Lehigh Gap since T.H. Nash's study in the 1970s and since zinc smelting operations have ceased. Included in this thesis is information on the general patterns in ecosystem disturbance and recovery, a background and history of the Palmerton site, an explanation of what lichens are and their role in the ecosystem, and a table depicting data.

Husic, Corey. Bird Inventory of the Lehigh Gap: The Impact of Zinc Smelting and Habitat Restoration. 2007. Slatington, Pennsylvania, Lehigh Gap Nature Center.

Ref Type: Report

Ref ID: 215

Keywords: Birding/Birds/Lehigh Gap Wildlife Refuge/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap

Nature Center

Notes: Lehigh Gap Nature Center Computer

A record of bird sightings on the Lehigh Gap Wildlife Refuge from June, July, and August 2006 and June of 2007.

Husic, D. "Habitat gardens alive and growing." Wildlife Activist.56 (2006): 30-31.

Ref ID: 522

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Vegetation/Wildlife Activist/Plants/Habitat Garden/Wildlife

Notes: Lehigh Gap Nature Center

This article gives an update on the growth progress of the plants in the habitat garden at the Lehigh Gap Wildlife Refuge.

Husic, D. W., et al. "The Central Role of Plants in the Remediation and Ecological Monitoring of a Metal-Contaminated Site in Eastern Pennsylvania". 2008.

Ref ID: 359

Keywords: Biodiversity/Ecology/Erosion/Grasses/heavy metals/Lehigh Gap/Lehigh Gap Wildlife Refuge/Lehigh River/Palmerton/Palmerton Zinc Pile Superfund

Site/Plants/Pollution/Reclamation/Soil/Superfund/The Appalachian Trail/Vegetation/Warm Season Grasses/Wildlife/Zinc/Palmerton Zinc/Palmerton Zinc Pile/Superfund Site/Zinc smelter/Metals/Restoration/Remediation/Lehigh Gap Nature Center

Abstract: "The Lehigh Gap Wildlife Refuge is a 750-acre tract on the Kittatinny Ridge in eastern PA that is bordered by the Lehigh River, the Appalachian Trail, and the Delaware and Lehigh National Heritage Corridor. The site is also part of the Palmerton Zinc Pile Superfund site. Eighty years of zinc smelter air pollution (SO<sub>2</sub> and metal particulates) resulted in a landscape almost devoid of vegetation. In 2003, metal-tolerant warm season grasses were tested as a potential way to revegetate the steep terrain, stabilize the severe erosion problem, sequester the toxic metals, and, serve as the first step in habitat restoration. The addition of soil amendments that accompanied the grass seeding has apparently provided conditions sufficient for the emergence

of some pioneering species, as well as a number of aggressive invasive plants. The grey birch (*Betula populifolia*) shows extreme signs of stress: stunted growth, severe leaf necrosis, and altered levels of phenolics. Other tree species such as aspens appear healthier, even though they have elevated levels of zinc in the leaf tissue. Unexplainably, the PA endangered native species *Dicentra eximia* and a rare, non-native species *Minuartia patula* (*Arenaria*) thrive on the contaminated sites. We are exploring the mechanisms of metal tolerance for some of these species. With the completion of a baseline assessment of the biodiversity at the refuge, it is now important to develop sound management practices to build on the success of the initial remediation efforts."

Notes: Lehigh Gap Nature Center Computer

Notes for a presentation at the 72<sup>nd</sup> Annual Meeting of the Northeast Section of the American Society of Plant Biologists regarding the role of plants in remediating the Lehigh Gap Wildlife Refuge.

Husic, Dave H. [Osprey House Library Collection](#).2009.

Ref ID: 487

Keywords: Lehigh Gap Nature Center/Osprey House

Notes: Internet: <http://lgnc.org/resources/library>

A link to a PDF file that is a catalog of the entire Osprey House collection.

Husic, Diane. Lehigh Gap Wildlife Refuge Ecological Assessment, Part II: Filling Gaps, Preparing for Monitoring- Project Description. 2009.

Ref Type: Report

Ref ID: 129

Keywords: Ecological Assessment/Ecology/Lehigh Gap Wildlife

Refuge/Vegetation/Wildlife/Lehigh Gap/Lehigh Gap Nature Center/Vertebrates/Restoration/heavy metals/Metals/Plants/Microclimate/Water/Water Quality

Notes: Lehigh Gap Nature Center Computer

A description of what will be included in Part II of the Ecological Assessment, including

"information on all vertebrates groups; native bee and other insect populations; ecological interactions, especially with regard to the restoration area and the uptake and effects of heavy metals by plants; and the physical environment of the refuge including microclimate and water quality. In addition, as recommended in the Natural Lands Trust report, we will be assessing the site for recreational and scientific potential as a hawkwatch site."

Husic, Diane W. "Navigating Through Interdisciplinary Pitfalls and Pathways to Success." Quarterly 2006: 169-76.

Ref ID: 236

Keywords: Education/Lehigh Gap Wildlife Refuge/Media/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

This article details the importance of an interdisciplinary approach to education. One interdisciplinary group, the Consortium for Research Opportunities in Plant Sciences, or "CROPS," used the Lehigh Gap as part of their summer symposium where students and faculty studied the connection between plant research and global issues.

Iannuzzi, Tim, Ludwig, Dave, and Blasland, Bouck and Lee Inc. 2004 Warm Season Grass Sampling Program. Root, Charles. 8-25-2004.

Ref Type: Personal Communication

Ref ID: 446

Keywords: Blue Mountain/heavy metals/OU 1/Palmerton/Risk Assessment/Soil/Soil

Sampling/Vegetation/Warm Season Grasses/Wildlife/Grasses/Metals/Palmerton Zinc/Palmerton Zinc Pile/Palmerton Zinc Pile Site/Zinc/OU1

Notes: LGNC Computer

"As part of the risk assessment process for the Wildlife Information Center (WIC) warm season grass area, BBL will conduct a second round of vegetation and soil sampling for metals analysis from a select group of test plots that were established in the Spring and Summer 2003 on Blue Mountain (Palmerton Zinc Pile Site - OU-1). The plots that will be sampled are the same as those selected and sampled by BBL in October 2003. The sampling program that will be conducted in

2004 is an augmentation of the 2003 program (in which only grasses and surface soil samples were collected and analyzed) with the following types of samples being collected:

- ~ Grass composites
- ~ Grass seed composites
- ~ Surface soils (from zero to about 4 inches in depth)
- ~ Leaves of non-grass species (e.g., pioneer shrubs and/or trees)."

Industrial Economics, Incorporated. Palmerton Zinc Pile Superfund Site Natural Resource Damage Assessment. 3-28-2008.

Ref Type: Report

Ref ID: 148

Keywords: Aquatic/Groundwater/Palmerton Zinc Pile Superfund

Site/Superfund/Vegetation/Wildlife/Palmerton/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund Site/Damage Assessment/Recreation

Notes: Palmerton Library, Book Case 3, Shelf 1

An electronic version of the Palmerton Zinc Pile Superfund Site Natural Resource Damage Assessment, that includes information on the damages to aquatic resources, terrestrial resources, groundwater, and recreation and explains the Superfund response to these damages.

Insetta, Susan Work Assignment Project Manager CDM Federal Programs. Palmerton Zinc Site- Final Technical Approach for Risk Assessment. 9-30-1996. CDM Federal Programs.

Ref Type: Report

Ref ID: 319

Keywords: OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Risk

Assessment/Zinc/EPA/Palmerton Zinc/Palmerton Zinc Site/Baseline Risk Assessment/OU

Notes: Palmerton Library, Book Case 1, Shelf 3

Binder

"CDM Federal Programs Corporation (CDM Federal) received Work Assignment No. 65-3926 from the U.S. Environmental Protection Agency (EPA) Region III to perform risk assessment

activities at the Palmerton Zinc site under the Alternative Remedial Contracting Strategy (ARCS IV) contract, Contract No. 68-W9-0056. This assignment includes conducting a baseline risk assessment to characterize site risk for Operable Unit (OU) 3 at the Palmerton Zinc site."

~ Tables and graphs included

International Lead Zinc Research Organizations, Inc. Zn 75- The New Look of Zinc and Lead- A Manual of Design and Engineering Innovations. 2009. New York, New York, International Lead Zinc Research Organizations, Inc.

Ref Type: Catalog

Ref ID: 196

Keywords: Lead/Paint/Zinc/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 6

Booklet provides various information about zinc and lead regarding the die casting, gravity casting, wrought zinc, zinc coatings, joining zinc or zinc-coated steel, zinc and lead parts, zinc forgings, zinc extrusions, zinc chemicals, lead sheet, terne coating, DS lead, lead-alloy solders, lead-acid batteries, fuels and lubricants, lead bearings, ceramics, and lead paints.

Johnson, Douglas H. Statistical Considerations for Monitoring Birds Over Large Areas. 1-28-2005.

Ref Type: Report

Ref ID: 367

Keywords: Birds/Ecosystem/Ornithology/Lead/Lehigh Gap/Lehigh Gap Nature Center

Abstract:

"The proper design of a monitoring effort depends primarily on the objectives desired, constrained by the resources available to conduct the work. Typically, managers have numerous objectives, such as determining abundance of the species, detecting changes in population size, evaluating responses to management activities, and assessing habitat associations. A design that is optimal for one objective will likely not be optimal for others. Careful consideration of the importance of the competing objectives may lead to a design that adequately addresses the priority concerns, although it may not be optimal for any individual objective. Poor design or

inadequate sample sizes may result in such weak conclusions that the effort is wasted. Statistical expertise can be used at several stages, such as estimating power of certain hypothesis tests, but is perhaps most useful in fundamental considerations of describing objectives and designing sampling plans."

Notes: Lehigh Gap Nature Center Computer

Jordan, Marilyn J. "Effects of zinc smelter emissions and fire on a chestnut-oak woodland." Ecology 56 (1975): 78-91.

Ref ID: 263

Keywords: Lehigh Gap/Map/Phytotoxicity/Pollutants/Vegetation/Zinc/Lehigh Gap Nature Center/Zinc smelter

Notes: Lehigh Gap Nature Center- Papers from box and LGNC Computer

A study of the effects of zinc smelter emissions and pollutants on vegetation at the Lehigh Gap. Article includes maps, images, tables, and graphs that depict data.

Jordan, Tracy. "EPA Says Zinc Recycling May Be As Bad As Smelting." The Morning Call 1990.

Ref ID: 230

Keywords: Media/Palmerton/Pollution/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Contamination

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article about the federal government report which identifies the source of contamination in Palmerton and suggests that current operations at Horsehead Resources Development Co. may be as much of a contributor to pollution as past zinc smelting operations. In the recycling process, the electric arc furnace dust recycling creates as much or more pollution than past zinc smelting operations.

Jouraeva, Venera, Stabinsky, Danielle, Giardiello, Todd, Orben, Kaylan, and Wright, Judith. Remediation of Heavy Metal Contaminated Soil Use Apatite II. 2006.

Ref Type: Report

Ref ID: 123

Keywords: Cadmium/heavy metals/Lead/Lehigh Gap Wildlife

Refuge/Map/Reclamation/Soil/Zinc/Remediation/Metals/Human  
Health/Vegetation/Grasses/Lehigh Gap/Lehigh Gap Nature Center

Abstract:

"The performance of Apatite II™ amendment as a remediation method for soil contaminated with heavy metals was investigated using a sequential fractionation technique. After only three months of treatment significant amounts of heavy metals were sequestered into the residual fraction of the soil. The residual fraction of the treated soil contained more Al (38%), Pb (32%), Zn (29%), Cd (26%), Cu (24%), and Cr (22%) than the residual fraction of the untreated soil. At the same time supply of essential minerals to the bioavailable fraction of soil was significantly increased and the acidity of the treated soil decreased, from pH 5.8 to pH 6.4. In a short period of time, Apatite II amendment transformed much of the heavy metal load from bioavailable (acid washable and exchangeable) and potentially bioavailable (reducible and oxidizable) forms to the residual forms that are permanently bound to the soil matrix and do not present a threat to environmental and human health. The treated soil supports vegetation growth (trees and grass) in the previously defoliated and sterile soils from this region."

Notes: Lehigh Gap Nature Center Computer

Includes tables, graphs, and maps depicting data

KEMRON Environmental Services, Inc. Risk Management Plan. 1999. Palmerton, Pennsylvania,  
Palmerton Distribution Center.

Ref Type: Report

Ref ID: 204

Keywords: Emergency Response Plan/Palmerton Zinc Pile Superfund Site/Risk  
Assessment/Palmerton/Risk Management Plan/History

Notes: Palmerton Library, Book Case 3, Shelf 6

Spiral booklet

"This Risk Management Plan includes the written data elements, and includes the following sections documenting the hazards assessment process, facility 5 year accident history,



prevention program measures, emergency response actions, and other requirements, in accordance with the regulations."

Ketterer, Michael E. and Lowry, Joe H. Palmerton Zinc OU3 Site Administrative Record File Volume IIIA.

1994. Denver, Colorado, National Enforcement Investigations Center.

Ref Type: Report

Ref ID: 37

Keywords: Administrative Record File/Environmental Hazards/Hazardous Substances/OU 3/Palmerton Zinc Pile Superfund Site/Palmerton/EPA/Palmerton Zinc/Zinc/East Plant

Notes: Palmerton Library, Book Case 2, Shelf 2

Binder

The U.S. EPA Office of Enforcement Remedial Response Report regarding the hazardous substances source identification study. The study was conducted to "identify sources of hazardous substances at the Palmerton Zinc CERCLA site. The specific intention was to examine whether emissions from pre-1980 primary zinc smelting and contemporary East Plant electric arc furnace dust recycling processes are significant contributors to the environmental burden of hazardous substances...The results of the study indicated that pre-1980 primary zinc smelting emissions are a major source of hazardous substances in the environment."

Khan, Abdul G. "Mycorrhizoremediation—an enhanced form of phytoremediation." Journal of Zhejiang University 7 (2006): 503-14.

Ref ID: 374

Keywords: heavy metals/Mycorrhizal

Fungi/Phytoremediation/Reclamation/Soil/Vegetation/Water/Fungi/Plants/Microflora/Remediation/Ecosystem/Restoration/Lehigh Gap/Lehigh Gap Nature Center

Abstract:

"Study of plant roots and the diversity of soil micro biota, such as bacteria, fungi and microfauna associated with them, is important for understanding the ecological complexities between diverse plants, microbes, soil and climates and their role in phytoremediation of contaminated soils. The

arbuscular mycorrhizal fungi (AMF) are universal and ubiquitous rhizosphere microflora forming symbiosis with plant roots and acting as biofertilizers, bioprotectants, and biodegraders. In addition to AMF, soils also contain various antagonistic and beneficial bacteria such as root pathogens, plant growth promoting rhizobacteria including free-living and symbiotic N-fixers, and mycorrhiza helping bacteria. Their potential role in phytoremediation of heavy metal (HM) contaminated soils and water is becoming evident although there is need to completely understand the ecological complexities of the plant-microbe-soil interactions and their better exploitation as consortia in remediation strategies employed for contaminated soils. These multitrophic root microbial associations deserve multi-disciplinary investigations using molecular, biochemical, and physiological techniques. Ecosystem restoration of heavy metal contaminated soils practices need to incorporate microbial biotechnology research and development. This review highlights the ecological complexity and diversity of plant-microbe-soil combinations, particularly AM and provides an overview on the recent developments in this area. It also discusses the role AMF play in phyto restoration of HM contaminated soils, i.e. mycorrhizoremediation."

Notes: Lehigh Gap Nature Center Computer

Kim, Ke Chung. Biodiversity Inventory and Assessment of the National Guard Training Center- Fort Indiantown Gap, Pennsylvania. 6-30-2008.

Ref Type: Report

Ref ID: 371

Keywords: Biodiversity/Ecology/Ecosystem/Ecosystems/Grassland/Pennsylvania/Regal Fritillary/Vegetation/Wildlife/Lehigh Gap/Lehigh Gap Nature Center/Plants/Fungi

Notes: Lehigh Gap Nature Center Computer

Biodiversity, the fountain of life, is the essence of our life-support system of which all resident species of plants, animals, fungi and microorganisms are closely interacting ecological partners for the process of ecosystem services. Therefore, sustainable management of ecosystems requires inventory and assessment of site-specific biodiversity. The National Guard Training Center at Fort Indiantown Gap (FTIG-NGTC) of the Pennsylvania Department of Military and

Veterans Affairs in Annville, Pennsylvania is an important military installation for training our national guards for the Commonwealth and the Nation. The ecosystem and its inclusive biodiversity of the facility must be protected and sustainably managed for military training of future national guards which is scientifically based. Towards that goal, sustainable management of the natural resources in the NGTC site this Biodiversity Program was initiated in 2002 to inventory, assess and monitor the biodiversity with focus on invertebrates. The goals of this program are to provide site-specific baseline environmental information by biodiversity inventory and assessment and develop monitoring tools for ecosystem management of the Center including a comprehensive biodiversity database towards developing an ecologically sound natural resource management system for the FTIG-NGTC facility. The Program developed into the three projects: Invertebrate Biodiversity Inventory and Assessment (2002-2004); FTIG-NGTC Biodiversity."

Kim, Lena EPA Region 3's Office of Brownfields and Outreach. "A Mountain of Hope." Mid-Atlantic Land Revitalization 2009.

Ref ID: 219

Keywords: Lehigh Gap/Lehigh Gap Wildlife Refuge/Media/Reclamation/Wildlife/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

An article about the reclamation of the Lehigh Gap Wildlife Refuge.

Klem, Daniel, Jr., et al. "Effects of Window Angling, Feeder Placement, and Scavengers on Avian Mortality at Plate Glass." Wilson Bulletin 116 (2004): 69-73.

Ref ID: 212

Keywords: Birds/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

A study of "the effects of window angling and the distance of bird feeders from windows on bird-glass collisions."

Klem, Daniel, Jr., et al. "Architectural and Landscape Risk Factors Associated with Bird-Glass Collisions in An Urban Environment." The Wilson Journal of Ornithology 121 (2008): 126-34.

Ref ID: 211

Keywords: Birds/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

A study of "building characteristics and landscape context to predict risk of migratory birds being killed by colliding with sheet glass on Manhattan Island, New York City, New York, USA."

Klem, Daniel, Jr. Sheet Glass: An Invisible and Lethal Hazard for Birds- Making Our Homes and Workplaces Safe for Birds. 2009. Allentown, Pennsylvania, Muhlenberg College.

Ref Type: Report

Ref ID: 208

Keywords: Birds/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap Nature Center/Education

Notes: Lehigh Gap Nature Center Computer

"Clear and reflective sheet glass as window panes in homes or entire walls of multistory commercial buildings is a passive invisible killer of wild birds worldwide. Among the dead are the abundant as well as the rare, threatened, and endangered species. Investigators have gathered extensive evidence documenting sheet glass as a growing source of avian mortality, and a suspected contributor to overall bird population declines. Preventing these unintended fatalities will require education addressing preventive techniques, regulation addressing the installation of glass in buildings, and enforcement of existing legislation to protect wild birds as an aesthetic and environmentally valuable natural resource."

Klem, Daniel, Jr. Glass: A Deadly Conservation Issue For Birds. 2009. Allentown, Pennsylvania, Muhlenberg College.

Ref Type: Report

Ref ID: 207

Keywords: Birds/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap Nature Center/Media

Notes: Lehigh Gap Nature Center Computer

"The hazard and toll attributable to sheet glass is reviewed in comparison to other man-associated avian mortality factors. Recently, lighted urban skyscrapers have attracted media

attention for their part in causing 1 - 2,000 annual fatalities in a single city during migratory periods. Also attracting attention is the predation attributable to domestic and feral cats, estimated to be millions, and perhaps over a billion for North America alone. Comparatively, pesticides, electrocution, propellers used in wind-power generation, and motor vehicles take a more modest toll. But given all available evidence, from extensive observations and experiments, it seems reasonable to claim that sheet glass is a much more serious lethal hazard threatening select species and bird populations overall than any other human factor."

Klem, Daniel, Jr. Glass as an avian mortality factor and conservation issue. 2009. Allentown, Pennsylvania, Muhlenberg College.

Ref Type: Report

Ref ID: 206

Keywords: Birds/Ornithology/Wildlife/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

"Extensive observations and experiments have revealed that birds act as if they cannot recognize clear or reflective panes as a barrier to be avoided. Lethal collisions have been recorded whenever and wherever birds and glass mutually occur."

Kosack, Joe. A Rocky Existence: Woodrats in Pennsylvania. Pennsylvania Game Commission, 2007.

Ref ID: 364

Keywords: Conservation/Ecology/Wildlife/Woodrat/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer; Internet:

<http://www.pgc.state.pa.us/pgc/cwp/view.asp?a=11&Q=172042>

Provides information on the allegheny woodrat and their significant role in conservation.

Kozlov, M. V. and E. L. Zvereva. "Industrial barrens: extreme habitats created by non-ferrous metallurgy." Springer Science and Business Media (2006): 231-59.

Ref ID: 419

Keywords: Biodiversity/Conservation/Erosion/heavy

metals/Microclimate/Phytotoxicity/Pollution/Soil/Vegetation/Pollutants/Contamination/Metals

Abstract: "Industrial barrens are bleak open landscapes evolved due to deposition of airborne pollutants, with only small patches of vegetation surrounded by bare land. These extreme environments appeared as a by-product of human activities about a century ago. The comparative analysis of information available from 36 industrial barrens worldwide allowed to identify factors and conditions that are necessary and sufficient for the appearance of these specific habitats. Vast majority of industrial barrens is associated with non-ferrous smelters, located predominantly in mountainous or hilly landscapes. Development of industrial barrens starts from gradual decline of vegetation due to severe pollution impact accompanied by other human-induced disturbances (primarily clearcutting) and is usually concluded by a fire, facilitated by accumulation of woody debris. Since vegetation recovery is hampered by soil toxicity caused by extreme contamination by heavy metals, soils remain bare and suffer from erosion enhanced by altered microclimate. In spite of general reduction in biodiversity, industrial barrens still support a variety of life, including regionally rare and endangered species, as well as populations that evolved specific adaptations to the harsh and toxic environment. Recently, most industrial barrens show some signs of natural recovery due to emission decline or closure of responsible polluters; some of barren sites have been or are being successfully revegetated. The remaining industrial barrens offer unique opportunities for conducting 'basic' ecological research, in particular for testing some general theories in an evolutionary novel stressful environment; some of barren habitats deserve conservation for scientific and educational purposes."

Notes: LGNC Computer

Kulp, Randolph. Railroads in the Lehigh River Valley. Allentown, Pennsylvania: National Railway Historical Society, Lehigh Valley Chapter, 1962.

Ref ID: 511

Keywords: History/Lehigh River/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A book about the history of the important railroad lines in the Lehigh River Valley area.

---. History of the Lehigh and New England Railroad Company. Allentown, Pennsylvania: National Railway Historical Society, Lehigh Valley Chapter, 1972.

Ref ID: 512

Keywords: History/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A book about the history of important railroad lines owned by the Lehigh and New England Railroad Company.

Kunkel, D. R. "Watching Grass Grow." Wildlife Activist.47 (2003): 7-8.

Ref ID: 531

Keywords: Grasses/Lehigh Gap/Lehigh Gap Wildlife Refuge/Reclamation/Warm Season

Grasses/Wildlife/Wildlife Activist/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

This article provides an update on the reclamation and revegetation process at the Lehigh Gap Wildlife Refuge.

Kunkle, D. R. "Doing the Impossible." Wildlife Activist.46 (2003): 3.

Ref ID: 529

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Reclamation/Wildlife Activist

Notes: Lehigh Gap Nature Center

An article that discusses how it was possible to have such a successful reclamation process at the Lehigh Gap in just one year.

---. "Watching grass grow II: Update on the restoration process at Lehigh Gap." Wildlife Activist.48 (2003): 9-10.

Ref ID: 533

Keywords: Grasses/Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Reclamation/Vegetation/Wildlife/Wildlife Activist/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

Article provides an update on the reclamation and revegetation process at the Lehigh Gap Wildlife Refuge.

---. "Ecological Succession and Lehigh Gap." Wildlife Activist.50 (2004): 4-7.

Ref ID: 535

Keywords: Ecosystem/Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Reclamation/Wildlife Activist/Succession/Wildlife

Notes: Lehigh Gap Nature Center

An article about the ecological succession occurring at the Lehigh Gap Wildlife Refuge.

Succession is the "gradual, predictable changes that occur in the flora and fauna of a given place over time as an ecosystem develops."

---. "Lehigh Gap restoration project: Year two progress report." Wildlife Activist.51 (2004): 4-7.

Ref ID: 537

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Reclamation/Vegetation/Wildlife/Wildlife Activist

Notes: Lehigh Gap Nature Center

This article provides information on the progress of the reclamation process at the Lehigh Gap Wildlife Refuge up to the Fall of 2004.

---. "Winter on the refuge." Wildlife Activist .52 (2005): 7.

Ref ID: 538

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife/Wildlife Activist

Notes: Lehigh Gap Nature Center

An article about the Lehigh Gap Wildlife Refuge in winter, with a focus on the wildlife found on the Refuge.

---. "Lehigh Gap Wildlife Refuge: The next chapter." Wildlife Activist.53 (2005): 2-3.

Ref ID: 539



Keywords: Education/Lehigh Gap/Lehigh Gap Wildlife Refuge/Wildlife/Wildlife  
Activist/Reclamation/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

An article about the progress the Lehigh Gap Wildlife Refuge has made since its inception,  
focusing on both the reclamation process and the educational goals that have been achieved.

---. "Lehigh Gap restoration project update: Center re-vegetation methods." Wildlife Activist.54 (2005): 4-  
5.

Ref ID: 541

Keywords: Grasses/Lehigh Gap/Palmerton/Vegetation/Warm Season Grasses/Wildlife  
Activist/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

An article about Frank and West Environmental Engineers, Inc. planting warm season grasses  
around Palmerton.

---. "Lehigh Gap restoration project update." Wildlife Activist.53 (2005): 8.

Ref ID: 540

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife  
Refuge/Reclamation/Wildlife/Wildlife Activist

Notes: Lehigh Gap Nature Center

An article about the progress that has been made with the Lehigh Gap Wildlife Refuge  
reclamation process.

Kunkle, D. R. and J. Dickerson. "Lehigh Gap Restoration Project- Native Grasses Key to Remediation of  
Palmerton Superfund Site." Proceedings of the 5th Eastern Native Grass Symposium (2006).

Ref ID: 524

Keywords: Grasses/Lehigh Gap/Palmerton/Palmerton Zinc Pile Superfund  
Site/Reclamation/Superfund/Vegetation/Warm Season Grasses/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

Article provides information on the Lehigh Gap reclamation process.

Kunkle, D. R. "Full scale restoration underway on refuge and surrounding lands." Wildlife Activist.55 (2006): 2-3.

Ref ID: 520

Keywords: Lehigh Gap/Lehigh Gap Wildlife Refuge/Reclamation/Wildlife Activist/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

This article provides detailed information on the Lehigh Gap reclamation process from 2003-2006.

---. "Refuge grass planting nearing completion." Wildlife Activist.56 (2006): 4-7.

Ref ID: 521

Keywords: Grasses/Lehigh Gap/Lehigh Gap Wildlife Refuge/Vegetation/Warm Season Grasses/Wildlife Activist/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

This article provides detailed information on the re-vegetation process at the Lehigh Gap from March of 2003 to the Summer of 2006.

Kunkle, Dan. Ecological Monitoring and Test Plot Design Palmerton Site, Wildlife Information Center tract. 2001.

Ref Type: Report

Ref ID: 420

Keywords: Ecology/Lehigh Gap/Lehigh Gap Wildlife Refuge/Palmerton/Wildlife

Notes: LGNC Computer

Report provides information on the test plots at the Lehigh Gap Wildlife Refuge, including their design and the measuring and monitoring process.

Kunkle, Dan. 2005 Work Project Photos. 2005.

Ref Type: Slide

Ref ID: 107

Keywords: Erosion/Lehigh Gap Wildlife Refuge/Lehigh Gap/Lehigh Gap Nature Center/Wildlife

Notes: Lehigh Gap Nature Center Computer

Phots

Images of erosion at the Lehigh Gap Wildlife Refuge from 2005.

Kunkle, Dan. Management Plans. Groy, Jeff. 4-4-2005.

Ref Type: Personal Communication

Ref ID: 468

Keywords: Education/Lehigh Gap/Recreation/Restoration/Wildlife/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

A letter which describes and gives the current status on the progress of "the three phases of the Wildlife Center's plans for our property at Lehigh Gap. They are:

I - Acquiring the land.

II - Habitat restoration and management.

III - Develop the environmental education and passive recreation potential of the refuge while maintaining its value as wildlife habitat."

Kunkle, Dan R. "A Chance for Renewal." Journeys- The Magazine of the Appalachian Trail Conservancy

2008: 20-22.

Ref ID: 237

Keywords: Basic Information/Lehigh Gap Wildlife Refuge/Media/Reclamation/Lehigh Gap/Lehigh Gap Nature Center/History/Restoration/Restoration process

Notes: Lehigh Gap Nature Center- Papers from box

A basic overview of the history of the Lehigh Gap and the restoration process.

Kunkle, Dan R. Lehigh Gap Restoration Project. 2009. Slatington, Pennsylvania, Lehigh Gap Nature Center.

Ref Type: Pamphlet

Ref ID: 141

Keywords: Basic Information/Blue Mountain/Fact Sheet/History/Lehigh Gap Nature Center/Reclamation/Superfund/Wildlife/Zinc/Lehigh Gap/EPA

Notes: Lehigh Gap Nature Center

A fact sheet that includes information on the history of the site, effects of zinc smelting on Blue Mountain, the Superfund and EPA regulations, and the Wildlife Center property.

Kuserk, Dr. Frank T. Electrofishing Safety Plan- Lehigh Gap Refuge Project. 7-19-2007.

Ref Type: Report

Ref ID: 354

Keywords: Electrofishing/Lehigh Gap/Wildlife/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

A list of ten safety rules regarding electrofishing while at the Lehigh Gap Wildlife Refuge.

Kuster, Anthony C., Reeser, Matthew, and Hargreaves, Bruce R. Microclimate at the Lehigh Gap: I. Establish a network of weather stations. 4-23-2009. Department of Earth and Environmental Sciences, Lehigh University.

Ref Type: Pamphlet

Ref ID: 126

Keywords: Climate Change/Lehigh Gap Wildlife Refuge/Microclimate/Weather/Lehigh Gap/Lehigh Gap Nature Center/Wildlife/Soil

Notes: Lehigh Gap Nature Center Computer

This pamphlet includes detailed information on the relay and weather stations that were installed across the Lehigh Gap Wildlife Refuge to create a grid. By using this grid, temperature, wind speed, rainfall, relative humidity, soil temperature, and leaf wetness can be determined.

Lappin, J. "An Estimate of the Composition of the Forest of the Early 1900s Which Covered the North-West Slopes of Blue Mountain, Near Palmerton, Pennsylvania." Diss. Rutgers University, 1973.

Ref ID: 495

Keywords: Blue Mountain/Palmerton/Pennsylvania/Vegetation

Laskowski, Stanley L. Acting Regional Administrator U. S. EPA. Request for a Clarification in Scope and Change in Project Ceiling of an Action Memorandum for a Removal Action Palmerton Zinc NPA

Site, Palmerton, Carbon County, Pennsylvania. Terry Stilman, On-Scene Coordinator Eastern Response Section. 2-3-1994.

Ref Type: Personal Communication

Ref ID: 289

Keywords: Carbon County/Hazardous Substances/Household Dust/Palmerton/Palmerton Zinc Pile Superfund Site/Pennsylvania/Pollution/Public Health/Soil/Zinc/Contamination/Human Health/Palmerton Zinc/Public

Notes: Palmerton Library, Book Case 1, Shelf 2

A letter regarding a removal assessment which was "performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300, by the On-Scene Coordinator and the Remedial Project Manager. Household dust and heavy metal contamination in the soil of Palmerton, Pennsylvania pose serious threats to human health, welfare, and the environment. Therefore, Palmerton residences and residential yards have been placed on the Palmerton Zinc National Priorities List. The letter includes information on the site, the types and quantities of substances present, the national priorities list status, the state and local authorities' roles, the threats to public health or welfare or the environment, and proposed actions and estimated costs."

Laskowski, Stanley L. Acting Regional Administrator U. S. EPA. Approval of a clarification of Scope and Change in Project Ceiling of an Action Memorandum for a Removal Action Palmerton Zinc NPA Site Palmerton, Carbon County, Pennsylvania. Elliot Laws, Assistant Administrator Office of Solid Waste and Emergency Response. 2-3-1994.

Ref Type: Personal Communication

Ref ID: 288

Keywords: Carbon County/Hazardous Substances/Palmerton/Palmerton Zinc Pile Superfund Site/Pollution/Public Health/Zinc/Public/Pollutants

Notes: Palmerton Library, Book Case 1, Shelf 2

A letter regarding a "removal site assessment performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan 40 CFR Part 300, by the staff in Region III

who have identified an imminent and substantial threat to public health or welfare or the environment due to the threat of release and current releases of hazardous substances, pollutants or contaminants at the Site."

Latham, Roger. Biological Components of the Site Conservation Plan for the State Line Serpentine Barrens. 1-29. 3-31-2008.

Ref Type: Report

Ref ID: 357

Keywords: Biodiversity/Ecology/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/Grassland/Plants/Conservation

Notes: Lehigh Gap Nature Center Computer

"Serpentine grassland in temperate eastern North America is a natural community type with the highest global rarity rank. It occurs on a small fraction of the area underlain by outcrops of ultramafic rock, mainly serpentinite. Diversity of herbaceous plants and specialist-feeding insects is exceptionally high. Many species occur as isolated, disjunct populations from ranges far to the south, in the western prairies, and along the seacoast; their local distribution is restricted or nearly restricted to serpentine barrens (Pennell 1910, 1912). The community has diminished substantially in size during the last 60 years at all sites, due to fire suppression and development. Nottingham serpentine barrens, Chester County, PA, has one of the largest remaining areas of serpentine grassland but aerial photo analysis shows that it has dwindled by half since 1937, replaced mainly by forests with low plant species diversity and a dense understory of the greenbriers *Smilax glauca* and *S. rotundifolia* (Arabas 2000). The main conservation challenges are protecting the best sites from further fragmentation and degradation by competing land uses, and halting or reversing the decline of the serpentine grasslands, which harbor most of the serpentine barrens' extraordinary biodiversity."

Latham, Roger. The Case for Native Grassland Research and Restoration at the Lehigh Gap. 2009.

Ref Type: Report

Ref ID: 488

Keywords: Ecology/Grassland/Lehigh Gap/Reclamation/Lehigh Gap Wildlife  
Refuge/Wildlife/History

Notes: LGNC Computer

Unpublished document

Report provides information on the grassland habitat at the Lehigh Gap Wildlife Refuge and the ecologic history of the area. There is a table that displays some data and a great works cited page at the end of the report.

Lathrop Reporting Agency. "In Response: Palmerton Community Risk Assessment Computer Litigation Transcript Held at Palmerton Library". Pennsylvania: Lathrop Reporting Agency, 1998.

Ref ID: 298

Keywords: Palmerton/Palmerton Citizens/Palmerton Zinc Pile Superfund Site/Public Health/Risk Assessment/Zinc/Public/Palmerton Zinc/Palmerton Zinc Site

Notes: Palmerton Library, Book Case 1, Shelf 2

Documentation of a public discussion regarding the Palmerton Zinc Site Risk Assessment.

Lechevalier, M. P. and M. J. Jordan. "Effects of zinc-smelter emissions on forest soil microflora."

Canadian Journal of Microbiology 21 (1975): 1855-65.

Ref ID: 259

Keywords: Microflora/Soil/Vegetation/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A study of how high zinc levels in soil effect the number of organisms and the number of varied species of microflora.

Lehigh Gap Nature Center. Wildlife Activist. Wildlife Activist [57]. 2006.

Ref Type: Journal (Full)

Ref ID: 100

Keywords: Award/Ecology/Habitat Garden/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Vegetation/Wildlife/Wildlife Activist/Lehigh

Gap/Restoration/History/Birds/Conservation/Grassland/Public/Biodiversity

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles regarding the Lehigh Gap including the Lehigh Gap Fund, the National Award that was received for the restoration project, research conducted at the Lehigh Gap, the new refuge trail, the habitat garden, the Naturalists Club, and a message from the Executive Director. Other articles include "naturalist notes" about David Sibley and Scott Weidensaul, and information on wildlife issues and news including horseshoe crabs, ivory-billed woodpeckers, condors, and ospreys. This issue also contains reviews of the following books: The Poconos: An Illustrated Natural History; Birds of the World: Recommended English Names; Birds of Mexico and Central America; Birds of South America, Non-Passeines: Rheas to Woodpeckers; Raptors of the World; The Easy Bird Guide, Eastern Region; The Man-Eaters of Eden: Life and Death in Kruger National Park; Squirrels: The animal Answer Guide; Whale Watcher: A Global Guide to Watching Whales, Dolphins, and Porpoises in the Wild; The World of the Polar Bear; Conservation of the Black-tailed Prairie Dog; Saving North America's Grasslands; Rainforest Bird Rescue; Bear Rescue; Alligator & Crocodile Rescue; Return to Wild America: A Yearlong Search for the Continent's Natural Soul; Turtles of the World; Flowers: How They Changed the World; Atlantic Coastal Wildflowers: A Guide to Common Wildflowers of the Coastal Regions of Virginia, North and South Carolina, Georgia, and Northeastern Florida; Wild Orchids of the Canadian Maritimes and Northern Great Lakes Regions; The Mountains of New Mexico; Wild Borneo; Rivers of America; Jungle of the Maya; Adventures Afar: A Nature Trails Book; How to Do Ecology: A Concise Handbook; Creatures of Accident: The Rise of the Animal Kingdom; Evolution and Christian Faith; Corridor Ecology; Jane Goodall: The Woman Who Redefined Man; Aldo Leopold's Odyssey; Uncertainty Underground: Yucca Mountain and the Nation's High Level Nuclear Waste; Solar Revolution; Public Power, Private Dams: The Hell's Canyon High Dam Controversy; The End of the Wild; Scientific Uncertainty and the Politics of Whaling; Conservation Across Borders: Biodiversity in an Interdependent World; and Defending the Environment: Civil Society Strategies to Enforce International Environmental Law.



Lehigh Gap Nature Center. Wildlife Activist. Wildlife Activist [59]. 2007.

Ref Type: Journal (Full)

Ref ID: 102

Keywords: Award/Birds/Habitat Garden/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Conservation/Ecology/Ecological Assessment/Education/Field Guide/Plants/History/Ecosystems/Ecosystem/Restoration

Notes: Lehigh Gap Nature Center

Featured in this issue of the Wildlife Information Center's newsletter are articles regarding the Lehigh Gap Wildlife Refuge including the Lehigh Gap Fund, the 2007 Lehigh Gap Conservation Award, the habitat garden project, the whip-poor-will hike, ecology camp, the ecological assessment, PSO Conservation Award awarded to the LGNC, the summer interns, a bird inventory of birds found at the Lehigh Gap, the Naturalists Club, and the Lehigh Gap as a research and education center. Other articles include "News from the Kittatinny Raptor Corridor Project," and wildlife issues and news regarding the bald eagle, palm warbler, AT protection, river fueling regeneration, preying mantis, West Nile and songbirds, hawk migration, and cowbird eggs. Also featured in this issue are reviews of the following books: Handbook of the Birds of the World: Volume 11, Old World Flycatchers to Old World Warblers; The Birds of Costa Rica, A Field Guide; Atlas of Bird Migration; Bird Coloration: Mechanisms and Measurements; Bird Coloration: Function and Evolution; Albatrosses, Petrels, & Shearwaters of the World; Predator: Life and Death in the African Bush; Stalked by a Mountain Lion; Wolf Empire: An Intimate Portrait of a Species; Growing up Grizzly: The True Story of Baylee and Her; Through animals' Eyes, Again: Stories of Wildlife Rescue; Biology and Conservation of Ridley Sea Turtles; 100 Butterflies and Moths; Kaufman Field Guide to Insects of North America; Prairie Plants of the University of Wisconsin-Madison Arboretum; Unnatural Landscapes; Glacier: A Natural History Guide, 2 ed.; Sky Time at Gray's River; This Tender Place: The Story of the Wetland Year; Mad Sheep: The True Story Behind the USDA's War on a Family Farm; Sustainability Indicators: A Scientific Assessment; Environmental Disasters, Natural Recovery and Human Responses; Restoring Colorado River Ecosystems; The Conservation Professional's Guide to Working with People;

Saving Nature's Legacy: Origins of the Idea of Biological Diversity; Drawing Lines in the Forest: Creating Wilderness Areas in the Pacific Northwest; Planning Research: A Concise Guide for the environmental and Natural Resource Sciences; A Guide for Deserts and Dryland Restoration; and Sea Cobra: Admiral Halsey's Task Force and the Great Pacific Typhoon.

Lehigh Gap Nature Center. Wildlife Activist. Wildlife Activist [60]. 2007.

Ref Type: Journal (Full)

Ref ID: 103

Keywords: Award/Birds/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Ornithology/Recreation/Wildlife Activist/Lehigh Gap/Wildlife/History/Birding/Field

Guide/Conservation/Aquatic/Biodiversity/Ecosystem/Climate Change

Notes: Lehigh Gap Nature Center

Featured in this issue of the Wildlife Information Center's newsletter are articles regarding the Lehigh Gap Wildlife Refuge including information on the Lehigh Gap campaign, Phase Three of the Lehigh Gap Nature Center Development Plan, parking improvements, the Wild Resources grant for ecological research, the NE PA Environmental Partnership award, the holiday open house, hiking, biking, and hawkwatching at the Refuge, and a message from the Executive Director. Other articles include news from the Kittatinny Raptor Corridor Project and wildlife issues and news regarding condor habitat, honeybees, bald eagles, and ravens. Also included in this issue are reviews of the following books: Of a Feather: A Brief History of American Birding; Handbook of the Birds of the World: Volume 12, Picathartes to Tits and Chickadees; Neotropical Raptors: Proceedings of the Second Neotropical Raptor Conference; Birds of Europe, Russia, China, and Japan. Passerines: Tyrant Flycatchers to Buntings; Raptors of Eastern North America; The Birds of South America, Volume 1: The Oscine Passerines; Birds and Birding at Cape May; Roger Tory Peterson, A Biography ; Mammals of Madagascar, A Complete Guide; Bears: A Brief History; African Odyssey: 365 Days; The New Encyclopedia of Snakes; Where in the Wild: Camouflaged Creatures Concealed...and Revealed ; Oceanic Wilderness; Field Guide to Butterflies of the San Francisco Bay and Sacramento Valley Regions; The Unnatural History of the Sea; Fish Conservation: A Guide to Understanding and Restoring Global Aquatic Biodiversity

and Fishery Resources; Restoring Natural Capital: Science, Business, Practice; The Law and Policy of Ecosystem Services; Climate Change: What it Means for Us, Our Children, and our Grandchildren; What We Know About Climate Change; and Plan B 3.0: Mobilizing to Save Civilization.

Lehigh Gap Nature Center. Wildlife Activist. Wildlife Activist [58]. 2007.

Ref Type: Journal (Full)

Ref ID: 101

Keywords: Ecology/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Vegetation/Wildlife/Wildlife Activist/Lehigh

Gap/Award/Birds/Ecosystems/Ecosystem/Amphibians/Invasive Species/Conservation

Notes: Lehigh Gap Nature Center

Featured in this issue of the Wildlife Information Center's newsletter are articles regarding the Lehigh Gap Wildlife Refuge, including the holiday open house, research roundtable, 2007 student ecologist awards, bird walks, bird studies, car sales helping the Refuge, exploring the refuge on skis, and a message from the Executive Director. Other articles include "Naturalist Notes" regarding the Middle Creek field trip, the Kittatinny Raptor Corridor Project's winter bird survey, feeder watch, and the ATC/PTC meeting at the Refuge, and wildlife issues and news regarding whooping cranes, horseshoe crabs, botulism, predators, catfish, and parrots. This issue also includes reviews of the following books: Mammals of South America: The Birdwatcher's Companion: North American Birdlife; Birds of Northern South America: An Identification Guide; Birds of the Dominican Republic and Haiti; Where to Watch Birds in World Cities; All Things Reconsidered; Return of the Condor: The Race to Save Our Largest Bird from Extinction; In the Company of Wild Bears: A Celebration of Backcountry Grizzlies and Black Bears; Mammals of North America: Temperate and Arctic Regions; Wildlife of North America: A Naturalist's Lifest; Mammals of North America North of Mexico; Whales, Whaling, and Ocean Ecosystems; Bats of Florida; Vicious: Wolves and Men in America; Endangered: Wildlife on the Brink of Extinction; Guide and Reference of the Snakes of Eastern and Central North America; Guide and Reference of the Amphibians of Eastern and Central North America; Guide and Reference of the

Crocodylians, Turtles, and Lizards of Eastern and Central North America (North of Mexico);  
Reptiles and Amphibians of East Africa; Monsters of the Sea; Galapagos: The Islands That  
Changed the World; Marshes: the Disappearing Edens; Big Thicket Plant Ecology: An  
Introduction; Hiking Glacier and Waterton Lakes National Parks, 3 ed.; Ecology of Freshwater  
and Estuarine Wetlands; American Perceptions of Immigrant and Invasive Species; Connectivity  
Conservation; Ecology and Ecosystem Conservation; Understanding Environmental  
Administration and Law; The World's Wild Places; Atlantic Shorelines; The Oldway. A Story of the  
First People.; and Saving Puget Sound: A Conservation Strategy for the 21<sup>st</sup> Century.

Lehigh Gap Nature Center. Wildlife Activist. Wildlife Activist [61]. 2008.

Ref Type: Journal (Full)

Ref ID: 104

Keywords: Ecology/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Vegetation/Wildlife/Wildlife Activist/Lehigh Gap/Ecological

Assessment/Superfund/Restoration/Habitat Garden/Birds/Field Guide/Conservation/Birding

Notes: Lehigh Gap Nature Center

Featured in this issue of the Wildlife Information Center's newsletter are articles regarding the Lehigh Gap Wildlife Refuge including the trail system, Congressman Dent's funding announcements, part 2 of the Ecological Assessment, the 2008 feeder watch, the 2008 student ecologists, the Superfund restoration, the access road to the D&L trail, the habitat gardens, the native bee project, and a message from the Executive Director. Other articles include news from the Kittatinny Raptor Corridor Project and wildlife issues and news regarding endangered species list, redpolls at LGNC, Pocono lands being preserved, and PA DCNR's iConserve Program. Also included in this issue are reviews of the following books: Birds of Peru; Field Guide to the Birds of Trinidad & Tobago; Owls of the United States and Canada: A Complete Guide To Their Biology and Behavior; A Photographic Guide to the Birds of Japan and North-east Asia; Field Guide to Owls of California and the West; The Complete Guide to Antarctic Wildlife: Birds and Marine Mammals of the Antarctic Continent and the Southern Ocean; Oology, and Ralph's Talking Eggs; Birder's Conservation Handbook: 100 North American Birds At Risk; Raptor Research and

Management Techniques; Solitary Goose; Birding Colorado; Birding Florida; Finding Your Wings: A Workbook for Beginning Bird Watchers; Orangutans: Behavior, Ecology, and Conservation; The Soul of the Rhino: A Nepali Adventure with Kings and Elephant Drivers, Billionaires and Bureaucrats, Shamans and Scientists and the Indian Rhinoceros; A Guide to Mammals of Southeast Asia; The Last Wild Wolves: Ghosts of the Rain Forests; No Way Home: The Decline of the World's Great Animal Migrations; Life in the Valley of Death; Venomous Animals of the World; What Bugged the Dinosaurs: Insects, Disease, and Death in the Cretaceous; Sky Time at Gray's River; Mountain Wildflowers of the Southern Rockies; Apollo's Fire: Igniting America's Clean Energy Economy; Fueling Our Future: An Introduction to Sustainable Energy; Amazon Expeditions: My Quest for the Ice-Age Equator; Ecological Restoration: Principles, Values, and Structure of an Emerging Profession; Downstream: Encounters with the Colorado; and Jane Goodall: A Biography.

Lehigh Gap Nature Center. Wildlife Activist. Wildlife Activist [62]. 2008.

Ref Type: Journal (Full)

Ref ID: 105

Keywords: Bake Oven Knob/Ecology/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Vegetation/Wildlife/Wildlife Activist/Lehigh Gap/Birding/Field

Guide/Birds/Plants/History/Soil

Notes: Lehigh Gap Nature Center

Featured in this issue of the Wildlife Information Center's newsletter are articles related to the Lehigh Gap Wildlife Refuge, including information on the ecology camp, DCNR grant, habitat plantings, scout projects, volunteer efforts, teacher workshops, birding day, the BOK intern, the entrance sign, and a message from the Executive Director. Other articles include information on peregrine falcons, TogetherGreen Partnerships, environmental leadership, and news from the Kittatinny Raptor Corridor Project regarding HawkFest and Cherry Valley National Wildlife Refuge. Also included in this issue are reviews of the following books: Peterson Field Guide to North American Birds; Smithsonian Field Guide to the Birds of North America; State of North America's Birds of Prey; Falcon Fever: A Falconer in the Twenty-first Century; Return of the

Eagle; Flute's Journey: The Life of a Wood Thrush; Dolphin Mysteries: Unlocking the Secrets of Communication; Elephants and Ethics: Toward A Morality of Coexistence; A Wildlife Guide to Chile; Monkeys of the Tai Forest: An African Primate Community; The Biology of the Xenarthra; Turtles of the Southeast; Cutthroat: Native Trout of the West; Invasive Plants: Guide to Identification and the Impacts and Control of Common North American Species; Do Butterflies Bite? Fascinating Answers to Questions about Butterflies and Moths; Natural History of the Point Reyes Peninsula; Ecology: A Pocket Guide; Life in the Soil: A Guide for Naturalists and Gardeners; Awful Splendor: A Fire History of Canada; T. rex and the Crater of Doom; Because the Cat Purrs: How we Relate to Other Species and Why it Matters; Cure Unknown: Inside Lyme Epidemic; Humans, Nature, and Birds: Science Art from Cave Walls to Computer Screens; Birdwatcher" The Life of Roger Tory Peterson; Whatever You Do, Don't Run: True Tales of a Botswana Safari Guide; A Wild Life: Adventures of an Accidental Conservationist in Africa; Chico, George, the Birds, and Me; and The Natural Pocono Mountains.

Lehigh Gap Nature Center. Wildlife Activist. Wildlife Activist [63]. 2009.

Ref Type: Journal (Full)

Ref ID: 106

Keywords: Ecology/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Vegetation/Wildlife/Wildlife Activist/Lehigh Gap/Conservation/Award/Birds/Birding/Field Guide/Plants/Grassland/History

Notes: Lehigh Gap Nature Center

Featured in this issue of the Wildlife Information Center's newsletter are articles related to the Lehigh Gap Wildlife Refuge including the Lehigh Gap campaign, the Lehigh Gap Conservation Award, the 2008 Holiday open house, the winter bird survey, the feeder watch for 2009, the chestnut oak trail, the 2009 student ecologists, a student researcher at a national event, LGNC being nationally recognized, and a message from the Executive Director. Other articles include information on environmental leadership, "naturalist notes," and news from the Kittatinny Raptor Corridor Project including the cherry Valley NWR, and Kittatinny-Shawangunk Raptor Corridor. Also included in this issue are reviews of the following books: Handbook of the Birds of the World.

Vol. 13: Penduline Tits to Shrikes; Top 100 Birding Sites of the World; Lars Jonsson's Birds: Paintings from a Near Horizon; The Little Owl: Conservation, Ecology and Behavior of Athena Noctua; The Princeton Encyclopedia of Birds; The Princeton Encyclopedia of Mammals; An Atlas of Endangered Species; Dolphin Mysteries, Unlocking the Secrets of Communication; Nature At Your Doorstep; Texas Wildlife Portraits; A Field Guide to the Plants and Animals of the Middle Rio Grande Bosque; Frogs & Toads of the Southeast; The Songs of Insects; Wildflowers of Wisconsin and the Great Lakes Region: A Comprehensive Field Guide; The Louisiana Coast: Guide to an American Wetland; Otero Mesa: Preserving America's Wildest Grassland; America's Forested Wetlands: From Wasteland to Valued Resource; Paving Paradise: Florida's Vanishing Wetlands and the Failure of No Net Loss; The Nanticoke: Portrait of a Chesapeake River; Wild Costa Rica, The Wildlife & Landscapes of Costa Rica; A Supremely Bad Idea: Three Mad Birders And Their Quest To See It All; The Stuff of Life: A Graphic to Genetics and DNA; DDT, Silent Spring, and the Rise of Environmentalism; Wildlife and Society: The Science of Human Dimensions; Science and Conservation in African Forest: The Benefits of Long-term Research; An Everglades Providence: Marjory Stoneman Douglas and the American Environmental Century; Bargaining For Eden: The Fight for the Last Open Spaces In America; CO2 Rising: The World's Greatest Environmental Challenge; Green, Inc.: An Environmental Insider Reveals How A Good Cause Has Gone Bad; Roadless Rules: The Struggle for the Last Wild Forests; Green Planet: How Plants Keep the Earth Alive; Wildlife Law: A Primer; Hope for a Heated Planet: How Americans Are Fighting Global Warming and Building a Better Future; Fallen Giants, A History of Himalayan Mountaineering from the Age of Empire to the Age of Extremes; and Barry Commoner and the Science of Survival.

Leickel, William L. Lehigh Water Gap- A Historic Past and a Link to the Future. 2009. Walnutport, Pennsylvania, B's Hive.

Ref Type: Catalog

Ref ID: 143

Keywords: History/Lehigh Gap/The New Jersey Zinc Company/Lehigh Gap Nature

Center/Map/Lehigh Gap Wildlife Refuge/Wildlife/Lehigh Valley/New Jersey Zinc Company/Zinc

Notes: Lehigh Gap Nature Center

A booklet which provides information on the history of the Lehigh Gap and includes great maps and photographs of the Lehigh Gap Wildlife Refuge, the Lehigh Valley Railroad, the New Jersey Zinc Company, and the surrounding areas. Photographs have great, detailed captions.

Lesley, J. P. The Geology of Lehigh and Northampton Counties. Harrisburg, Pennsylvania: Pennsylvania Geological Survey, 1883.

Ref ID: 179

Keywords: Geology/Lehigh County/Lehigh Gap/Northampton County/Pennsylvania

Notes: Moravian College's Reeves Library

Book provides information on the geology of the Lehigh Gap in Pennsylvania.

---. A Geological Hand Atlas of the Sixty-Seven Counties of Pennsylvania Embodying the Results of the Field Work of the Survey, From 1874 to 1884. Harrisburg, Pennsylvania: Harrisburg Board of Commissioners for the Second Geological Survey, 1885.

Ref ID: 131

Keywords: Geology/Pennsylvania/Map

Notes: Moravian College's Reeves Library

Provides an explanation of the geological structure of Pennsylvania and contains 61 county maps.

Local Emergency Planning Committee for the Emergency Planning District of Carbon County and Zinc Corporation of America. Zinc Corporation of America Hazardous Materials Off-Site Response Plan. 1990. Harrisburg, Pennsylvania, Zinc Corporation of America.

Ref Type: Report

Ref ID: 201

Keywords: Carbon County/Emergency Response Plan/Hazardous Materials/Palmerton/Public Health/Vegetation/Zinc/Zinc Corporation of America/Public/West Plant/Plants

Notes: Palmerton Library, Book Case 3, Shelf 6

White folder



This report is an off-site response plan made by the Zinc Corporation of America and the Local Emergency Planning Committee in Carbon County. The report was produced to determine the protective actions that would occur in the event that the public was exposed to hazardous materials at the East and West Plants in Palmerton operated by the Zinc Corporation of America.

Loven, Dawn. E-mail. Metals Risk. 5-16-2006.

Ref Type: Personal Communication

Ref ID: 250

Keywords: EPA/Lehigh Gap Wildlife Refuge/Public Health/Soil/Lehigh Gap/Lehigh Gap Nature Center/Risk Assessment/Metal toxicity

Notes: Lehigh Gap Nature Center- Papers from box

Letter to Charles Root of the EPA and from Dawn Loven of the EPA about the risk assessment of the metal toxicity in the soil at the Lehigh Gap.

MacFadyen, John. A. Jr. "Structural Geology of an Area Near Lehigh Gap, Pennsylvania." Diss. Lehigh University, 1950.

Ref ID: 174

Keywords: Geology/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh University and a photo copy is available at the Lehigh Gap Nature Center

"This investigation represents a detailed study of the structures in the vicinity of Lehigh Gap, with special emphasis on the determination of their age relationships with the several periods of deformation that are believed to have affected this region."

Machalara, Daniel. "The Grass Is Greener On the Other Side Of the Fence? Nope." The Wall Steet Journal 19 Apr. 1977.

Ref ID: 222

Keywords: Grasses/heavy metals/Media/Palmerton/Palmerton Citizens/Soil/Warm Season Grasses/Lehigh Gap/Lehigh Gap Nature Center/Metals

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article about Palmerton homeowners facing the challenges of growing grass successfully in soil contaminated with heavy metals.

McKee, Katherine. "Grass, Wildflowers Flourish in Sludge on Blue Mountain." The Morning Call 1 June 1992.

Ref ID: 228

Keywords: Blue Mountain/Lehigh Gap Wildlife Refuge/Media/Restoration/Vegetation/Warm Season Grasses/Lehigh Gap/Lehigh Gap Nature Center/Grasses

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article about the grass and wildflowers beginning to grow in the sludge and fly ash compost mixture on Blue Mountain.

McKenna, I. M. and Rufus L. Chaney. "Cadmium Transfer to Humans from Food Crops Grown in Sites Contaminated with Cadmium and Zinc." Conf.Combined Effects of Environmental Factors (1990): 65-70.

Ref ID: 407

Keywords: Cadmium/heavy metals/Public Health/Soil/Vegetation/Zinc/Risk Assessment/Public/Public Comments/Palmerton/Bioavailability

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"Food Cd represents the major source of Cd exposure for non-smokers and those who are not occupationally exposed to cadmium. Food Cd bioavailability depends on Cd-speciation in food, nutrients in diet, and nutritional status of consumers, as illustrated by population groups with high dietary Cd intakes, via rice (Japan), oysters (New Zealand), and vegetables (England and USA)." Article contains tables that correspond with the data.

McKenna, Ilda Melo, et al. "Interactions of Plant Zinc and Plant Species on the Bioavailability of Plant Cadmium to Japanese Quail Fed Lettuce and Spinach." Environmental Research 57.1 (1991): 73-87.

Ref ID: 406

Keywords: Bioavailability/Cadmium/heavy metals/Vegetation/Zinc/Risk Assessment/Public/Public  
Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton  
Library, Book Case 1, Shelf 4

"Many cadmium-contaminated environments contain high levels of zinc. The effects of plant Zn  
and plant species on plant Cd bioavailability were tested in Japanese quail fed lettuce and  
spinach." Article contains tables and graphs that correspond with the data.

McKenna, Ilda Melo, Rufus L. Chaney, and Frederick M. Williams. "The Effects of Cadmium and Zinc  
Interactions on the Accumulation and Tissue Distribution of Zinc and Cadmium in Lettuce and  
Spinach." Environmental Pollution 79.2 (1991): 113-20.

Ref ID: 403

Keywords: Cadmium/heavy metals/Metals/Vegetation/Zinc/Risk Assessment/Public/Public  
Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton  
Library, Book Case 1, Shelf 4

"The interactions between Zn and Cd on the concentration and tissue distribution of these metals  
in lettuce and spinach were studied at levels corresponding to background and Zn-Cd  
contaminated sites." Article includes tables and graphs that depict the data.

---. "The Effects of Cadmium and Zinc Interactions on the Accumulation and Tissue Distribution of Zinc  
and Cadmium in Lettuce and Spinach." Environmental Pollution 79 (1993): 113-20.

Ref ID: 408

Keywords: Cadmium/heavy metals/Phytotoxicity/Vegetation/Zinc/Risk Assessment/Public/Public  
Comments/Palmerton/Metals

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton  
Library, Book Case 1, Shelf 4

"The interactions between Zn and Cd on the concentration and tissue distribution of these metals

in lettuce and spinach were studied at levels corresponding to background and Zn-Cd contaminated sites."

McTish, Kunkel and Associates. Summary Report and Comments on a review of the Hazardous Substances Source Identification Study. 11-11-1994. McTish, Kunkel, and Associates.

Ref Type: Report

Ref ID: 315

Keywords: Hazardous Substances/Palmerton/Palmerton Citizens/Risk Assessment/Public/Public Comments/Pennsylvania

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

A report prepared for the Palmerton Citizens for a Clean Environment regarding hazardous substances in Palmerton, Pennsylvania.

McTish, Kunkel and Associates. Summary Report and Comments on the review of the ATSDR Health Consultation Palmerton Zinc Superfund Site, Palmerton, Pennsylvania and Summary Report and Comments on the review of the Proposed U.S. EPA Interim Action Plan. 1-24-1994.

Ref Type: Report

Ref ID: 430

Keywords: ATSDR/EPA/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Superfund/Risk Assessment/Public/Public Comments/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund Site

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

A review on the ATSDR Health Consultation for the Palmerton Zinc Superfund Site and the Interim Action Plan.

McTish, Kunkel and Associates. Summary Report and Comments on a review of the Palmerton Scientific Symposium. 7-29-1994.

Ref Type: Report

Ref ID: 432

Keywords: Palmerton/Palmerton Citizens/Risk Assessment/Public/Public Comments

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"A general overview of the proceedings" of the Palmerton Scientific Symposium "placing emphasis on important technical issues, and those issues that relate directly to the overall significance of the symposium."

Meteer, Wade Frank and West Environmental Engineers. Soil Sample Results from WIC Test Plots. Groy, Jeff. 9-11-2006.

Ref Type: Personal Communication

Ref ID: 456

Keywords: heavy metals/Lehigh Gap/Soil/Vegetation

Notes: LGNC Computer

This report displays data from "WIC soil samples... taken on August 7, 2006 in areas that exhibited dark and light green plant growth. The results of the soil test showed optimum and/or above optimum levels for pH, P, and K."

Miller, Benjamin. Lehigh County Pennsylvania: Geology and Geography. Harrisburg, Pennsylvania: Topographic and Geologic Survey, 1941.

Ref ID: 513

Keywords: Lehigh County/Pennsylvania/Geology/Conservation

Notes: The Pennsylvania Department of Conservation and Natural Resources

A book about the geology and geography of Lehigh County in Pennsylvania.

Miller, Benjamin LeRoy, et al. Lehigh County Pennsylvania- Geology and Geography. Harrisburg, Pennsylvania: Pennsylvania Geologic Survey, 1841.

Ref ID: 489

Keywords: Lehigh County/Pennsylvania/Geology/Lehigh Gap

Notes: Moravian College Reeves Library

Book provides information on the geology and geography of Lehigh County in Pennsylvania.

The Lehigh Gap is mentioned briefly.

Miller, Benjamin LeRoy, Donald McCoy Fraser, and Ralph LeRoy Miller. Northampton County, Pennsylvania. Harrisburg, Pennsylvania: Commonwealth of Pennsylvania- Department of Environmental Resources, 1939.

Ref ID: 130

Keywords: Geology/History/Northampton County/Water/Weather/Lehigh Gap/Lehigh Gap Nature Center/Ground Water

Notes: Lehigh Gap Nature Center

This book documents the historical development of the people and the geology of Northampton County and also includes information about the climate and weather, physiography, industrial development, and ground water resources.

Morey, Karen, Sherblom, Paul, and Cigliano, John. An Assessment of The Effect of  $Zn^{2+}$  on Plant Growth In Aquatic and Terrestrial Habitat. 2004. Allentown, Pennsylvania, Cedar Crest College.

Ref Type: Report

Ref ID: 421

Keywords: Aquatic/heavy metals/Phytotoxicity/Soil/Vegetation/Zinc/Metals/Plants/EPA

Abstract: "Zinc is a heavy metal that is essential to the survival of all organisms. However, as with other heavy metals, it can also be toxic at high doses. The purpose of this study was to determine the impact of  $Zn^{2+}$  on the growth of terrestrial and aquatic plants. We used Wisconsin Fast Plants, *Brassica rapa*, grown in a hydroponics system to simulate, an aquatic system and in soil to simulate a terrestrial habitat. The plants in the hydroponics treatment were grown at concentrations of 40ugZnCl/L, which is the maximum allowable limit according to EPA guidelines, and at 120ugZnCl/L. Plants in the soil treatment were grown at 300mgZnCl/kg, also the maximum allowed by EPA, and 900mgZnCl/kg. Our results indicate that  $Zn^{2+}$  has a strong negative effect on plants grown in both systems, resulting in a lower growth rate as well as a

lower final height."

Notes: LGNC Computer

MS Book and Mineral Company. Mining History and Geology of the United States. MS Book and Mineral Company, 2009.

Ref ID: 517

Keywords: Geology/History/Mining/Pennsylvania

Notes: Internet: <http://booksgeology.com/pennsylvania.htm>

An online catalog of sources on mining history and geology in Pennsylvania.

Nash, E. H. "Effects of a Zinc Smelter on Mosses." Diss. New Brunswick, New Jersey, 1972.

Ref ID: 496

Keywords: heavy metals/Vegetation/Zinc

Nash, T. H. "Simplification of the Blue Mountain lichen community near a zinc factory." The Bryologist 75.3 (1972): 315-24.

Ref ID: 262

Keywords: Blue Mountain/Lehigh Gap/Lichens/Zinc/Lehigh Gap Nature Center/Lichen/Water

Notes: Lehigh Gap Nature Center- Papers from box and LGNC Computer

A comparison of the lichen communities found at the Lehigh Gap and the Delaware Water Gap.

Lichen species were found to be much more diverse and plentiful at the Delaware Water Gap.

Article includes tables and graphs that depict data.

---. "Influence of effluents from a zinc factory on lichens." Ecological Monographs.45 (1975).

Ref ID: 497

Keywords: Lichens/Zinc

Notes: Article available online via jstor: <http://www.jstor.org/pss/1942406>

---. "Lichens as indicators of air pollution." Naturwissenschaften 63 (1976): 364-67.

Ref ID: 261

Keywords: heavy metals/Lichens/Pollution/Sulfur Dioxide/Lehigh Gap/Lehigh Gap Nature

Center/Metals/Lichen/Pollutants

Notes: Lehigh Gap Nature Center- Papers from box

A study of the effects of sulfur dioxide, hydrogen fluoride, heavy metals, and oxidants on lichen populations. Study will help determine what pollutants have the most detrimental effects on lichens.

National Academy of Sciences. Airborne Lead in Perspective, National Academy of Sciences. 1972.

Springfield, Virginia, NTIS- National Technical Information Service.

Ref Type: Catalog

Ref ID: 271

Keywords: Animal Toxicity/Ecosystem/Ecosystems/Lead/Phytotoxicity/Public

Health/Vegetation/Wildlife/Palmerton/Human Health/Plants

Notes: Palmerton Library, Book Case 1, Shelf 1

Binder

"This comprehensive review contains information of interest to those concerned with the sources, magnitude, and distribution of airborne lead in the ecosystem and with its effects on human health and welfare, on plants, and on domestic and wild animals." It also presents useful information for clinicians and laboratory workers, describes sampling and analytic methods for lead, recommends procedures for the collection and storage of biologic samples, and summarizes toxicological data on experimental lead poisoning. Contains great figures and tables regarding lead in ecosystems and the atmosphere, lead consumption and emission, etc.

National Atlas of the United States. Reusing Superfund Sites.2008.

Ref ID: 377

Keywords: Palmerton Zinc Pile Superfund Site/Superfund/Superfund Site

Notes: Internet: [http://nationalatlas.gov/articles/environment/a\\_superfund.html#one](http://nationalatlas.gov/articles/environment/a_superfund.html#one)

This internet article provides information on "how Superfund sites have been safely and productively reused, how communities have benefited from reusing Superfund sites, and where communities can find out more about reuse."



Lehigh Gap Maps. Map. Media, Pennsylvania: Natural Lands Trust, 2007.

Ref ID: 116

Keywords: Ecological Assessment/Lehigh Gap Wildlife Refuge/Map/Lehigh Gap/Lehigh Gap Nature Center/Wildlife/Soil

Notes: Lehigh Gap Nature Center Computer

Maps of the Lehigh Gap Wildlife Refuge USGS quadrangles, landscape context, aerial photography, soils, slopes and hydrology, plant communities, stewardship features and issues, and trails. These same maps are also included in the Ecological Assessment.

Natural Lands Trust, Continental Conservation, and Botanical Inventory. Lehigh Gap Wildlife Refuge Ecological Assessment. 1-62. 2007. Media, Pennsylvania, Natural Lands Trust.

Ref Type: Report

Ref ID: 125

Keywords: Biodiversity/Ecological Assessment/Ecology/Education/Lehigh Gap Wildlife Refuge/Lichens/Map/Vegetation/Wildlife/Lehigh Gap/Lehigh Gap Nature Center/Ecosystem/Grassland/Lichen/Palmerton/Palmerton Zinc/Zinc/Zinc smelter

Notes: Lehigh Gap Nature Center Computer

Also available in electronic form at LGNC website

The ecological assessment conducted in 2007 for the Lehigh Gap Wildlife Refuge includes information on the community and ecosystem diversity, stewardship issues and recommendations, and educational and recreational opportunities on the Refuge property. Also includes five appendices, Appendix A: Vascular flora of the Lehigh Gap Wildlife Refuge study area; Appendix B: Summary of statistics on the vascular flora of the Lehigh Gap Wildlife Refuge; Appendix C: The native grasslands and meadows of the Lehigh Gap Wildlife Refuge: a unique opportunity for high-profile research and demonstration projects; Appendix D: Lehigh Gap Nature Center: Preliminary Faunal Assessment for Insects; Appendix E: The Recovery of a Simplified Lichen Community near the Palmerton Zinc Smelter. Tables and maps are also used to depict data.

No Author Given. High Stress Site. 7-1-0007.

Ref Type: Slide

Ref ID: 356

Keywords: Vegetation/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

A picture of birch tree leaves from a high stress site on the Refuge.

---. "All the Dust Hasn't Settled in Palmerton." The Morning Call 13 Sept. 991.

Ref ID: 233

Keywords: Media/Palmerton/Palmerton Citizens/Public Health/The New Jersey Zinc

Company/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Public/Contamination

Notes: Lehigh Gap Nature Center- Papers from box

This article explains and gives answers to public questions about the zinc smelting plant and the contamination in Palmerton.

---. Silver Anniversary of the Founding of Palmerton, Pennsylvania. Palmerton, Pennsylvania: Palmerton Printing Company, 1923.

Ref ID: 156

Keywords: History/Palmerton/Public

Notes: Palmerton Library, Book Case 3, Shelf 2

This book explains the history of the town of Palmerton and includes photographs of the public schools, churches, organizations, industries, banks, houses, sanitation facilities, athletics, societies and lodges, and more.

---. Golden Jubilee of the Incorporation of the Borough of Palmerton Pennsylvania. 1962.

Ref ID: 157

Keywords: History/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 2

A book that explains the history of Palmerton and includes photographs on the borough officials, schools, churches, banks, industries, societies, associations, and more.

---. "Cadmium Deposition and Hepatic Microsomal Induction in Mice Fed Lettuce Grown on Municipal Sludge-Amended Soil." J Agric.Food Chem 26.4 (1978).

Ref ID: 404

Keywords: Animal Toxicity/Cadmium/heavy metals/Soil/Zinc/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"Romaine lettuce, cultured on soil amended with municipal sludges, was fed as 45% of their diet to mice. The concentrations of Cd and Zn in the lettuce correlated closely with the element levels in the respective sludges on which they were grown." Article includes tables that depict data.

---. "EPA List of 418 Toxic Waste Sites." New York Times 21 Dec. 1982.

Ref ID: 231

Keywords: Media/Superfund/Lehigh Gap/Lehigh Gap Nature Center/Hazardous Waste

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article giving the U.S. EPA's 1982 list of the 418 most dangerous hazardous waste dumps in the nation. Listed by state, location within state, and facility.

---. "Zinc-Contaminated Mountain to Be Green Again." PennState Newsletter 1987.

Ref ID: 221

Keywords: Ecoloam/Media/Reclamation/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/Public/Pennsylvania/Soil/Conservation/Blue Mountain

Notes: Lehigh Gap Nature Center- Papers from box

An article about "William E. Sopper (a professor of forest hydrology), a team of cooperators from Allentown Department of Public Works, the Pennsylvania Power and Light Company, and the U.S. Soil Conservation Service" who "began working together in 1986 to re-vegetate Blue Mountain in Pennsylvania. Sludge and fly ash were used to cover the contaminated soil, but because the first year's results regarding vegetation growth were not conclusive, they will continue to be monitored." This topic is discussed further in "Greening of Blue Mountain," an

article by William E. Sopper and Joseph M. McMahon III which appeared in Biocycle (vol, 28, no, 4, April 1987, pp. 47-51).

No Author Given. Palmerton Zinc Pile OU2 Administrative Record File Volume IIIC. 1988.

Ref Type: Catalog

Ref ID: 44

Keywords: Administrative Record File/Cinder Bank/EPA/OU 2/Palmerton Zinc Pile Superfund Site/Record of Decision/Palmerton

Notes: Palmerton Library, Book Case 2, Shelf 2

Binder contains documentation regarding Operable Unit 2 (the Cinder Bank), including the declaration for the selected remedy in the Record of Decision.

No Author Given. Palmerton Zinc OU 3 Administrative Record File Volume III. 1989.

Ref Type: Report

Ref ID: 38

Keywords: Draft Remedial Investigation and Risk Assessment/Environmental Health/OU 3/Palmerton/Palmerton Zinc Off-Site Study Area/Palmerton Zinc Pile Superfund Site/Public Health/EPA/Risk Assessment/Palmerton Zinc/Zinc/Public/Pennsylvania

Notes: Palmerton Library, Book Case 2, Shelf 2

A U.S. EPA binder that includes two of the two volumes of the Draft Remedial Investigation and Risk Assessment for the Palmerton Zinc Off-Site Study Area. The report describes the risks to public health and the environment in the area around Palmerton, Pennsylvania and Operable Unit 3. Binder also includes studies and comments regarding the reports.

---. "EPA Owes Palmerton Good Data." The Morning Call 17 Oct. 1991.

Ref ID: 232

Keywords: EPA/Media/Palmerton/Palmerton Zinc Pile Superfund Site/Responsible Party/Superfund/Lehigh Gap/Lehigh Gap Nature Center/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund Site

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article about the EPA trying to identify the responsible party for the Palmerton Zinc Pile Superfund Site.

No Author Given. Twelve Home Clean-Up- Notebook #2- Housedust Cleaning and Residential Sampling Report Palmerton, Carbon County, Pennsylvania. 11-3-1992.

Ref Type: Report

Ref ID: 281

Keywords: Carbon County/Dust Sampling/Housedust Cleaning/Lead/Media/Paint Sampling/Palmerton/Public Health/Soil Sampling/Water Sampling/Zinc/Zinc Corporation of America/Soil/Water/Paint/Housedust

Notes: Palmerton Library, Book Case 1, Shelf 1

This report was prepared for the Zinc Corporation of America. "Each property that agreed to participate in the Cleaning Program was sampled extensively to provide a baseline from which to evaluate the effectiveness of the Cleaning Program and to determine what sources of lead exist within the home. Media sampled included soil, tap water, interior and exterior paint, housedust and blood before cleaning and housedust and blood after cleaning. Air and asbestos bulk dust sampling also occurred as part of the cleaning activities."

No Author Given. Research 12-02, Prior Data. 1993.

Ref Type: Catalog

Ref ID: 114

Keywords: Aquashicola Creek/Surface Water/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

This file contains various data from 1993 to 2002 regarding Aquashicola Creek.

---. "Alzheimer's: Could There Be a Zinc Link?" Science Magazine 2 Sept. 1994.

Ref ID: 431

Keywords: heavy metals/Public Health/Zinc/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

In 1991, "motivated by reports that zinc improves mental alertness in the elderly, a team in neuroscientist Colin Masters' lab at the University of Melbourne gave zinc supplements to a handful of Alzheimer's patients and age-matched controls. The results, however, were disastrous: Within 2 days, the cognition of the Alzheimer's patients deteriorated markedly."

No Author Given. Appendix D: Woody Stem Counts. 1994.

Ref Type: Report

Ref ID: 150

Keywords: Ecoloam/Reclamation/Vegetation/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 1

A pile of loose papers that documents that data from monitoring the success of tree establishment in the ecoloam area.

No Author Given. Final Lead Policy. 8-31-1994.

Ref Type: Report

Ref ID: 439

Keywords: heavy metals/Lead/Soil/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"This policy and procedure describes the Department's soil cleanup levels and criteria for lead-contaminated soil and gives practical field guidance for the implementation of these cleanup levels and criteria."

No Author Given. Palmerton Exposure Study- Multi-metal Analyses of Residential Samples. 12-4-1995.

Ref Type: Catalog

Ref ID: 349

Keywords: Interior Dust/Paint/Palmerton/Public Health/Soil

Notes: Palmerton Library, Book Case 1, Shelf 5

Notebook

A record of data from metal analyses in individual residences in Palmerton as well as Palmerton's soil, interior dust, and paint.

No Author Given. Comments on the Palmerton Zinc Pile (OU#3) Risk Assessment Responsiveness

Summary and Technical Memorandum for Palmerton. 1996.

Ref Type: Catalog

Ref ID: 5

Keywords: OU 3/Palmerton/Palmerton Environmental Task Force/Palmerton Zinc Pile Superfund Site/Risk Assessment/Superfund/Zinc/Zinc Corporation of America/Palmerton Zinc/Palmerton Zinc Pile/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

Includes comments from the Palmerton Environmental Task Force, Viacom, and the Zinc Corporation of America regarding the Responsiveness Summary and Technical Memorandum for Operable Unit 3 of the Palmerton Zinc Pile Superfund Site.

---. "Carbon County, Pennsylvania- Reclamation of Palmerton Zinc Superfund Site." Water Environment Federation (2000): 167-78.

Ref ID: 415

Keywords: Carbon County/Palmerton/Palmerton Zinc Pile Superfund Site/Reclamation/Superfund/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/Palmerton Superfund Site/Superfund Site

Notes: Lehigh Gap Nature Center Computer

Article provides information on the Palmerton Superfund Site including the reclamation process, greenhouse and field plot trials, legal negotiations, full scale implementation and more.

No Author Given. Superfund Program- Record of Decision- Palmerton Zinc Site Operable Unit #3

Community Soils. 2001.

Ref Type: Report

Ref ID: 345

Keywords: Community Soils/EPA/Hazardous Substances/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Pollution/Public Health/Record of Decision/Soil/Superfund/Remedial Action/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

"The decision document presents the final selected remedial action for Community Soils, Operable Unit #3, Palmerton Zinc Superfund Site. The remedial action was selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 and the National Oil and Hazardous Substances Pollution Contingency Plan. This decision is based on the Administrative Record for the Site."

No Author Given. 2003 Warm Season Grass Data. 2003.

Ref Type: Report

Ref ID: 443

Keywords: heavy metals/Reclamation/Vegetation/Warm Season Grasses/Grasses/Contamination

Notes: LGNC Computer

An excel sheet displaying the warm season grass data from 2003, including the heavy metal contamination for each species of grass.

No Author Given. Palmerton Region Soil Study- Lab. 2003.

Ref Type: Report

Ref ID: 256

Keywords: Geology/GIS Data/heavy metals/Lehigh Gap/Palmerton/Soil/Lehigh Gap Nature Center/Contamination/Metals/Map

Notes: Lehigh Gap Nature Center- Papers from box

A lab created for students in an environmental geology class to measure the contamination of heavy metals in the soil at the Lehigh Gap. As a part of the lab, students use GIS software to create a map that illustrates the distribution of soil contamination in the area.



No Author Given. 2004 Sample Summary. 2004.

Ref Type: Report

Ref ID: 447

Keywords: heavy metals/Soil/Vegetation/Warm Season Grasses/Grasses

Notes: LGNC Computer

An excel sheet displaying data from 2004 on the warm season grasses and soil.

No Author Given. Pennsylvania Bird List. 9-29-2004.

Ref Type: Report

Ref ID: 368

Keywords: Birding/Birds/Ornithology/Pennsylvania/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

A list of all the bird species found in Pennsylvania.

---. Superfund Site Report: Palmerton Zinc Pile.2005.

Ref ID: 483

Keywords: Hazardous Substances/Palmerton/Palmerton Zinc Pile Superfund Site/Responsible Party/Superfund/Palmerton Superfund Site/Superfund Site

Notes: Internet: [http://www.scorecard.org/env-releases/land/site.tcl?epa\\_id=PAD002395887](http://www.scorecard.org/env-releases/land/site.tcl?epa_id=PAD002395887)

A web site regarding the Palmerton Superfund Site, including a site description, threats and contaminants found on the site, pre-cleanup rankings of the hazards on the site, and potentially responsible parties.

No Author Given. 2007 Spring GIS Data. 2007.

Ref Type: Report

Ref ID: 463

Keywords: GIS Data/Lehigh Gap/Lehigh Gap Wildlife Refuge/Wildlife

Notes: LGNC Computer

An excel sheet displaying the GIS data of the Lehigh Gap Wildlife Refuge from the spring of 2007.

No Author Given. Grasses Planted in 2006-2007. 2007.

Ref Type: Report

Ref ID: 467

Keywords: heavy metals/Lehigh Gap Wildlife Refuge/Reclamation/Vegetation/Warm Season  
Grasses/Wildlife/Grasses/Lehigh Gap

Notes: LGNC Computer

A list of the grasses that were planted in 2006 and 2007 on the Lehigh Gap Wildlife Refuge property.

No Author Given. Water Sample. 3-25-2007.

Ref Type: Report

Ref ID: 362

Keywords: Lehigh Gap Wildlife Refuge/Water/Lehigh Gap/Lehigh Gap Nature Center/Wildlife

Notes: Lehigh Gap Nature Center Computer

An excel spreadsheet displaying data from water samples at the Lehigh Gap Wildlife Refuge.

---. Palmerton Zinc Pile. The Center for Public Integrity, 2008.

Ref ID: 484

Keywords: General Information/Map/Palmerton/Palmerton Zinc Pile Superfund  
Site/Superfund/Palmerton Superfund Site/Superfund Site

Notes: Internet: <http://projects.publicintegrity.org/Superfund/Site.aspx?act=0300624>

Web site contains general information on the Palmerton Superfund Site, including a map from google earth.

No Author Given. Lehigh Gap Food Web Sampling. 7-8-2008. Lehigh Gap Nature Center.

Ref Type: Report

Ref ID: 121

Keywords: Ecosystem/Food Web/Lehigh Gap Wildlife Refuge/Vegetation/Wildlife/Lehigh  
Gap/Plants

Notes: LGNC Computer

This is a study of the animals that are a part of the food web at the Lehigh Gap Wildlife Refuge. The study includes collecting samples of plants, insects, bird feathers and feces, and mammal tissue, hair, and feces. "When all the samples are prepared, they will be sent to a national lab for a determination of isotope ratios. Not only will we analyze for the ratio of carbon 13 to carbon 12 ratios, we will also assay for the ratio of the stable isotope nitrogen 15 to nitrogen 14. This ratio has been found to be an indicator of trophic position."

---. "A Brief History of Palmerton." Blue Mountain Town & Country Gazette 3 July 2008.

Ref ID: 238

Keywords: History/Media/Palmerton/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

This article explains the history of the town of Palmerton and the zinc smelting that occurred there.

---. Pennsylvania Superfund Site: Palmerton Zinc Pile- Fight Air Pollution & Water Pollution With an Environmental Toxic Tort Lawsuit.Weitz & Luxenberg, 2009.

Ref ID: 485

Keywords: Palmerton/Palmerton Zinc Pile Superfund

Site/Pollution/Superfund/Zinc/Pennsylvania/Superfund Site/Palmerton Zinc/Palmerton Zinc Pile/Water/Palmerton Zinc Site

Notes: Internet:

[http://www.weitzlux.com/environmentallawsuit/pennsylvania/palmertonzincpil\\_146681.html](http://www.weitzlux.com/environmentallawsuit/pennsylvania/palmertonzincpil_146681.html)

Weitz and Luxenberg Law Firm's web site for the Palmerton Zinc Site. The web site offers help if one is in need of a Toxic Tort Lawyer.

No Author Given. Researcher Database. 2009.

Ref Type: Catalog

Ref ID: 122

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife

Notes: Lehigh Gap Nature Center Computer

A contact list of people who have conducted research at the Lehigh Gap Wildlife Refuge. List includes the person's name, affiliation, research interest, and e-mail address.

---. "Fungal Interactions With Humans." The Role of Fungi in Ecosystem Processes. 2009. 1-62.

Ref ID: 418

Keywords: Climate Change/Ecosystems/Fungi/heavy metals/Lichens/Mycorrhizal

Fungi/Pollutants/Soil/Vegetation/Lichen/Metals/Ecosystem/Aquatic

Notes: LGNC Computer

This chapter discusses fungi and acidifying pollutants; mycorrhizae; plant nutrients; effects of acidifying pollutants on saprotrophic fungal activity, fungal/faunal interactions, phylloplane fungi, and lichens; fungi and heavy metals; influences of heavy metals on saprotrophy in terrestrial ecosystems; influences of mycorrhizae and primary productivity in terrestrial ecosystems; impact of heavy metals in aquatic ecosystems; impact of heavy metals in marine ecosystems; impact of heavy metals on lichens; fungi and radionuclides; fungi and climate change; and soil nutrients and carbon stores.

---. Outstanding Scenic Geological Features of Pennsylvania- Lehigh County.2009.

Ref ID: 518

Keywords: Lehigh County/Lehigh Gap/Pennsylvania/Bake Oven Knob

Notes: Internet:

A web site that lists and gives a description of different scenic geological features in Lehigh County, Pennsylvania. The Lehigh Gap, the Bake Oven Knob, Bauer Rock, Bears Rocks, Jasper Cliffs, Vera Cruz Jasper Pits are all mentioned.

No Author Given. Paint History and Measuring Lead in-situ by XRF. 2009.

Ref Type: Report

Ref ID: 438

Keywords: heavy metals/History/Lead/Paint/Public Health/Risk Assessment/Public/Public

Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton

Library, Book Case 1, Shelf 4

Documents the history of paint use and the use of lead in paints.

No Author Given. Metals- Springs, Ponds. 2009.

Ref Type: Report

Ref ID: 358

Keywords: heavy metals/Lehigh Gap/Lehigh Gap Wildlife Refuge/Wildlife/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

An excel sheet displaying data of the metal levels in the springs and ponds on the Lehigh Gap Wildlife Refuge.

---. Lehigh Gap Nature Center Web Site.Lehigh Gap Nature Center, 2009.

Ref ID: 486

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Wildlife/Lehigh Gap Wildlife Refuge/Conservation/Education

Notes: Lehigh Gap Nature Center

The Lehigh Gap Nature Center's web site which contains information on the Lehigh Gap Wildlife Refuge. The Lehigh Gap Nature Center is a non-profit conservation organization whose "mission is to preserve wildlife and habitat through conservation, education, and research for the benefit of the earth and all its inhabitants."

No Author Given. EPA 2- Analyzing the Food Web of a Contaminated Site in Eastern Pennsylvania.

2009.

Ref Type: Report

Ref ID: 353

Keywords: Biodiversity/Ecology/Food Web/Lehigh Gap/Lehigh Gap Wildlife Refuge/Wildlife/Lehigh Gap Nature Center/Ecosystem

Notes: Lehigh Gap Nature Center Computer

This article provides information regarding the ecosystem, biodiversity, predator/prey relations, and the food web at the Lehigh Gap Wildlife Refuge.

No Author Given. Factors Contributing to Defoliation and Efforts to Revegetate Blue Mountain in the Vicinity of Palmerton, Pennsylvania. 2009.

Ref Type: Pamphlet

Ref ID: 249

Keywords: Blue Mountain/Fact Sheet/History/Palmerton/Reclamation/Vegetation/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

Fact sheet provides information on the site history of Blue Mountain, the deforestation due to zinc smelting, and efforts to revegetate the area.

No Author Given. Factors Contributing to Defoliation and Efforts to Revegetate Blue Mountain in the Vicinity of Palmerton Pennsylvania. 2009.

Ref Type: Pamphlet

Ref ID: 140

Keywords: Basic Information/Fact Sheet/Lehigh Gap Nature Center/Palmerton Zinc Pile Superfund Site/Reclamation/Lehigh Gap/History/Blue Mountain

Notes: Lehigh Gap Nature Center

A fact sheet that includes a history of the site, factors contributing to deforestation of Blue Mountain, and efforts to revegetate the land.

No Author Given. LGNC Microclimate Comparison. 2009.

Ref Type: Report

Ref ID: 365

Keywords: Climate Change/Lehigh Gap/Lehigh Gap Wildlife Refuge/Microclimate/Wildlife/Lehigh Gap Nature Center/Weather

Notes: Lehigh Gap Nature Center Computer

A graph depicting data from the weather stations at the Lehigh Gap Wildlife Refuge.

No Author Given. Palmerton Zinc Pile OU2 Administrative Record File Volume IIIB. 2009.

Ref Type: Catalog

Ref ID: 48

Keywords: Administrative Record File/OU 2/Palmerton Zinc Pile Superfund Site/Palmerton

Notes: Palmerton Library, Book Case 2, Shelf 3

Binder includes a various mix of documents pertaining to Operable Unit 2, such as lab data and analyses.

Noonan, Curtis W., et al. Influence of environmental zinc on the association between environmental and biological measures of lead in children.2003.

Ref ID: 480

Keywords: Hazardous Waste/heavy metals/Lead/Public Health/Soil/Superfund/Zinc

Abstract: "Exposure to lead, a common environmental contaminant found at hazardous waste sites, has been associated with adverse health effects to humans. Zinc, a nutritionally essential metal, may influence both the absorption and the toxicity of lead. The purpose of this study was to determine if zinc levels present in the environment affect the association between environmental lead measured in two small communities in the northeastern United States and biological measurements of lead in the residents of these communities. Soil and dust sampled in and around the homes of all participants were tested for lead and zinc. Residents aged 6 months to 14 years (n=214) provided blood samples for the determination of blood lead concentrations. Soil and dust measurements of environmental lead were positively associated with blood lead, regardless of the corresponding zinc levels in these samples. However, the magnitude of this association was 20% to 46% lower in areas with high environmental measures of zinc. The interactions between environmental lead and environmental zinc levels and blood lead concentrations suggest that zinc may influence the association between soil and dust lead and corresponding blood lead levels."

Notes: Internet source: <http://www.nature.com/jes/journal/v13/n4/full/7500286a.html>

Office of Solid Waste and Emergency Response. Ecological Revitalization: Turning Contaminated Properties into Community Assets.2009.

Ref ID: 379

Keywords: Aquatic/Ecosystems/Hazardous Waste/Reclamation/Superfund/Surface Water/Ecosystem

Notes: Internet:

<http://www.clu->

[in.org/download/issues/ecotools/Ecological\\_Revitalization\\_Turning\\_Contaminated\\_Properties\\_Into\\_Community\\_Assets.pdf](http://www.clu-in.org/download/issues/ecotools/Ecological_Revitalization_Turning_Contaminated_Properties_Into_Community_Assets.pdf)[http://costperformance.org/pdf/20070522\\_396.pdf](http://costperformance.org/pdf/20070522_396.pdf)

"This document (1) provides an overview of EPA's cleanup programs and resources available to support ecological revitalization; (2) addresses technical considerations to help cleanup project managers and other stakeholders carry out ecological revitalization at contaminated properties; and (3) presents general planning and process considerations for ecological revitalization of wetlands, streams, and terrestrial ecosystems as well as successful long-term stewardship. Appendix A at the end of the document presents additional case studies on ecological revitalization."

Oyler, John A. "Remediation of Metals-contaminated Site Near a Zinc Smelter Using Sludge/Fly Ash Amendments: Herbaceous Species." Trace Substances in Environmental Health 22 (1988).

Ref ID: 246

Keywords: Blue Mountain/Ecoloam/General Information/Reclamation/Vegetation/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

Provides information on the greenhouse and test plot studies that aimed to revegetate Blue Mountain.

Oyler, John A. Remediation of Metals- Contaminated Near a Zinc Smelter Using Sludge/Fly Ash Amendments: Herbaceous Species. 1988. University of Missouri, Columbia.

Ref Type: Report



Ref ID: 138

Keywords: EPA/Erosion/heavy metals/Palmerton Zinc Pile Superfund

Sit/Phytotoxicity/Reclamation/Sulfur Dioxide/Vegetation/Zinc/Lehigh Gap/Lehigh Gap Nature

Center/Zinc smelter/Carbon County/Pennsylvania/Blue

Mountain/Superfund/Metals/Soil/Cadmium/Lead

Notes: Lehigh Gap Nature Center

"Emissions from two zinc smelters in Carbon County, Pennsylvania over an 80-year period caused the defoliation of Blue Mountain. Primary smelting ceased in 1980, and this site is now on the EPA Superfund clean-up list. High levels of sulfur dioxide slowly killed off the existing oak-chestnut forest and particulate metals built to very high levels in the soil. Current metal levels in the soil are as high as 1,300ppm cadmium, 6,474ppm cadmium, and 6,474ppm lead, and 32,085ppm zinc. These high levels have stopped microbial activity, and there has been no decomposition or regeneration for decades. Both physical and chemical problems with the eroded soil need to be addressed to reclaim this site. The hypothesis tested was to use mixtures of sludge and fly ash, lime and potash to revegetate the site using metals-tolerant ecotypes of herbaceous species. Overall, metals were not excessive, and no phytotoxicity was observed. It appears that this new reclamation technology may be applicable to a number of drastically disturbed areas."

---. "Remediation of Metals-contaminated Site Near a Smelter Using Sludge/Fly Ash Amendments."

Proceedings of the 44th Industrial Waste Conference (1990): 75-82.

Ref ID: 239

Keywords: Blue Mountain/Ecoloam/General Information/Reclamation/Lehigh Gap/Lehigh Gap

Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

This article is about studies that were conducted when Blue Mountain was revegetated. Studies began in 1984 and were conducted using greenhouses and test plots. Article includes tables depicting data.

Oyler, John A. Use of Power Plant Fly Ash/Municipal Sludge Admixture to Reclaim Land Near a Smelter.

1993.

Ref Type: Report

Ref ID: 161

Keywords: Cadmium/EPA/heavy

metals/Lead/Metals/Pennsylvania/Phytotoxicity/Soil/Superfund/Vegetation/Water/Zinc/Zinc  
smelter/Sulfur Dioxide/Palmerton

Abstract: "Thousands of acres of mountainous land near a zinc smelter in eastern Pennsylvania were defoliated by more than eighty years of primary zinc smelting. The damage was caused by emissions of sulfur dioxide, zinc, lead, and cadmium. Smelting ceased in 1980, and soil heavy metals are in concentration as high as 30,000mg/kg Zn, 6,500 mg/kg Pb, and 1,800 mg/kg Cd, preventing revegetation. In 1982, the U.S. Environmental Protection Agency placed this site on the National Priority List (Superfund) for cleanup. Numerous remedial alternatives were screened, and the selected alternative was to provide an in-situ stabilization of the heavy metals in the soil. This alternative consists of managing the soil pH to keep it near neutral to keep the metals in a precipitated state out of solution, thereby preventing large amounts of possibly contaminated water from recharging the aquifer. Smelter sites are very difficult to revegetate due to the very harsh physical, chemical, and biological soil problems. The approach used at this site was to use fly ash, municipal sludge, limestone, and potash to create a synthetic soil that addressed all the soil problems, coupled with an innovative application technique for steep slopes. U.S. EPA approved this design in May, 1991, and the project is now full-scale, with a 1,000 acre parcel scheduled for completion in a five year period. This project is utilizing up to 16,250 tons of fly ash per year."

Notes: Palmerton Library, Book Case 3, Shelf 2

Stack of papers

Oyler, John A. Palmerton Zinc Superfund Site- Summary of Activities. 1994.

Ref Type: Report

Ref ID: 433

Keywords: General Information/OU 1/OU 2/OU 3/OU 4/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/Risk Assessment/Public/Public Comments/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund Site

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

A summary report of the Palmerton Zinc Superfund site, including the four operable units.

Palmerton Emergency Planning Committee. Carbon County Off-Site Response Plans. 1996.

Ref Type: Report

Ref ID: 185

Keywords: Carbon County/Emergency Response Plan/Palmerton/Zinc/Water/Zinc Corporation of America/Superfund/Pennsylvania

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder

Includes emergency response plans for Palmerton wastewater, Palmerton Water Company, Palmerton Memorial Park swimming pool, La Roche Industries, Inc., and the Zinc Corporation of America. All plans were developed "in accordance with the provisions of the Superfund Amendments and Reauthorization Act of 1986 Title III, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and of the Hazardous Material Emergency Planning and Response Act, Pennsylvania Act 1990-165, by the Local Emergency Planning Committee for the Emergency Planning District of Carbon County."

Palmerton Environmental Task Force. Black Binder- Operable Unit #4- Surface and Groundwater. 1997.

Ref Type: Report

Ref ID: 339

Keywords: Groundwater/Map/OU 4/Palmerton/Palmerton Environmental Task Force/Pennsylvania/Surface Water

Notes: Palmerton Library, Book Case 1, Shelf 4

Binder

The Palmerton Environmental Task Force's binder containing information on Operable Unit #4, surface and groundwater in Palmerton, Pennsylvania. Report includes maps, graphs, and tables.

Palmerton Environmental Task Force. Community Lead Abatement Program. 1994.

Ref Type: Catalog

Ref ID: 329

Keywords: Lead/Palmerton/Palmerton Environmental Task Force

Notes: Palmerton Library, Book Case 1, Shelf 4

Binder

The Palmerton Environmental Task Force's notes and reports relative to the EPA's Lead Abatement Program.

Palmerton Environmental Task Force. Palmerton Scientific Symposium Notebook. 7-29-1994. Palmerton Environmental Task Force.

Ref Type: Catalog

Ref ID: 325

Keywords: Palmerton/Palmerton Environmental Task Force

Notes: Palmerton Library, Book Case 1, Shelf 3

Binder

Notes from the Palmerton Environmental Task Force's information about the Palmerton Scientific Symposium held on July 29, 1994.

Palmerton Environmental Task Force. Palmerton Zinc Site - Final Technical Approach for Risk Assessment. 9-30-1996. Palmerton, Pennsylvania, Palmerton Environmental Task Force.

Ref Type: Report

Ref ID: 306

Keywords: EPA/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Risk Assessment/Palmerton Zinc/Palmerton Zinc Site/Zinc/Baseline Risk Assessment/OU

Notes: Palmerton Library, Book Case 1, Shelf 2

Spiral-bound booklet

"CDM Federal Programs Corporation (CDM Federal) received Work Assignment No. 65-3926 from the U.S. Environmental Protection Agency (EPA) Region III to perform risk assessment activities at the Palmerton Zinc site under the Alternative Remedial Contracting Strategy (ARCS IV) contract, Contract No. 68-W9-0056. This assignment includes conducting a baseline risk assessment to characterize site risk for Operable Unit (OU) 3 at the Palmerton Zinc site."

Palmerton Environmental Task Force. Palmerton Zinc Site- Final Responsiveness Summary. 9-30-1996.

Palmerton, Pennsylvania, Palmerton Environmental Task Force.

Ref Type: Report

Ref ID: 305

Keywords: EPA/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Risk Assessment/Zinc/OU3/Palmerton Zinc/Palmerton Zinc Site

Notes: Palmerton Library, Book Case 1, Shelf 2

Spiral-bound booklet

"This Responsiveness Summary addresses comments received by EPA from interested parties regarding the risk assessment for OU3 at the Palmerton Zinc Site. This Responsiveness Summary is divided into two sections: A.) Responsiveness Summary, and B.) Responses to Comments Received on the Final Draft Technical Approach for Risk Assessment."

Palmerton Environmental Task Force and Ziegenfus, Dolores. Draft Risk Assessment OU 3- Additional Information. 1998.

Ref Type: Catalog

Ref ID: 295

Keywords: EPA/Palmerton/Palmerton Environmental Task Force/Public Health/Risk Assessment

Notes: Palmerton Library, Book Case 1, Shelf 2

Binder

Records from the Palmerton Risk Assessment Subcommittee of the Palmerton Environmental

Task Force and their involvement in the risk assessment procedures. Includes meeting notes, reports from GeoServices, Inc., and transmittals to the U.S. EPA.

Palmerton Environmental Task Force. Superfund Program Proposed Plan- Palmerton Zinc Site Operable Unit #3, Community Soils. 2000.

Ref Type: Catalog

Ref ID: 347

Keywords: Community Soils/OU 3/Palmerton/Palmerton Environmental Task Force/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Superfund/Zinc/Palmerton Zinc/Palmerton Zinc Site/Public

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

A collection of the Palmerton Environmental Task Force's resources for the Superfund Program Proposed Plan for the Palmerton Zinc Site, Operable Unit #3. Binder includes numerous items regarding the proposed plan including letters from the Palmerton Environmental Task Force to other organizations, a paper copy of a Powerpoint presentation for a public meeting, public meeting notes, etc.

Palmerton Environmental Task Force. PETF Newspaper Articles. 2002.

Ref Type: Catalog

Ref ID: 348

Keywords: Media/Palmerton/Palmerton Environmental Task Force

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

A Palmerton Environmental Task Force's scrapbook of newspaper articles. Articles are from various newspapers between 1999 and 2002.

Palmerton Environmental Task Force and Borough of Palmerton. Office Manual- Palmerton

Environmental Task Force and Borough of Palmerton: "Lead Safe" Home Grant Program. 2009.

Ref Type: Catalog

Ref ID: 285

Keywords: Lead/Palmerton/Palmerton Environmental Task Force/Public Health

Notes: Palmerton Library, Book Case 1, Shelf 2

Binder

This manual describes the testing and clean-up procedures for the Lead Safe Home Program in Palmerton.

Palmerton Environmental Task Force. Palmerton Zinc OU3 Site Administrative Record File Volume V. 2009.

Ref Type: Catalog

Ref ID: 42

Keywords: Administrative Record File/OU 3/Palmerton/Palmerton Environmental Task Force/Palmerton Zinc Pile Superfund Site/Pennsylvania/Public

Notes: Palmerton Library, Book Case 2, Shelf 2

Binder

A Palmerton Environmental Task Force binder containing various documents pertaining to Operable Unit 3 in Palmerton, Pennsylvania. Binder includes information from the public, congressional correspondences, and photographs.

Parkwood Research Associates. Palmerton Area Residents Opinion Survey- Final Report. 1-27-1992. Palmerton, Pennsylvania, Parkwood Research Associates.

Ref Type: Report

Ref ID: 75

Keywords: Palmerton Citizens/Palmerton Zinc Pile Superfund Site/Public Comments/Public Health/Palmerton/Palmerton Superfund Site/Superfund/Superfund Site

Notes: Palmerton Library, Book Case 2, Shelf 6

The report provides the results of a survey conducted to determine Palmerton citizen's demographics and awareness of the Palmerton Superfund Site.

Parsons, John. The Lehigh Water Gap: A Documentary History. Palmerton, Pennsylvania: Lehigh Gap Historical & Preservation Society & Museum, 1993.

Ref ID: 144

Keywords: History/Lehigh Gap/Palmerton/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A historical review of the Lehigh Gap and the surrounding area.

Partnership for Community Health in the Lehigh Valley. Excerpts from Preliminary Report on Community Health Status Assessment and Major Health Problems in the Lehigh Valley. 1995. Lehigh Valley, The Dorothy Rider Pool Health Care Trust.

Ref Type: Report

Ref ID: 192

Keywords: Lehigh Valley/Public Health/Palmerton/Lehigh County/Northampton County

Notes: Palmerton Library, Book Case 3, Shelf 5

Booklet

"In 1993, The Partnership for Community Health in the Lehigh Valley, consisting of Allentown Osteopathic Medical Center, Easton Hospital, Good Shepherd, Lehigh Valley Hospital, Muhlenberg Hospital Center, Sacred Heart, St. Luke's Hospital, Lehigh County Medical Society, Northampton County Medical Society and the Dorothy Rider Pool Health Care Trust, released two preliminary reports- a community health status assessment, and a report on major health problems in the Lehigh Valley. The Partnership also released a third document, describing how data for the reports had been gathered and analyzed. This summary includes excerpts from each of the Partnership's three documents."

Pennsylvania Department of Health and The Agency for Toxic Substances and Disease Registry. Public Health Assessment Palmerton Zinc Pile. 1-24. 1993. Pennsylvania Department of Health. 7-6-0009.

Ref Type: Report

Ref ID: 28



Keywords: ATSDR/Environmental Contamination/EPA/Hazardous Substances/Palmerton Zinc Pile Superfund Site/Public Health/Risk

Assessment/Palmerton/Public/Pennsylvania/Contamination/Human Health

Notes: Palmerton Library, Book Case 2, Shelf 1

Clear, bounded folder

A public health assessment prepared by the Health Assessment Team, Pennsylvania Department of Health, in cooperative agreement with ATSDR and "based on the data obtained by the Environmental Protection Agency, the Pennsylvania Department of Environmental Resources, and the Pennsylvania Department of Health's Northeast and Northcentral Health Districts. Report includes background information on the site, community health concerns, environmental contamination and other hazards, pathways analyses, and public health implications. The report concludes that the site "is a public health hazard because of the risk to human health resulting from probable chronic (long-term) exposures to hazardous substances at concentrations that may result in adverse human health effects."

Pflieger, Martin. "Mansions on the Hill." The Morning Call 15 May 1997.

Ref ID: 227

Keywords: Grasses/Lehigh Gap Wildlife Refuge/Media/Restoration/Vegetation/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article about grasses and trees beginning to grow from a layer of composted yard waste spread over seven formerly barren and polluted acres in Lower Towamensing Township.

Pluta, Bruce R. Biological Technical Assistance Group. 2004 Total Cover Analysis, Root Analysis and Description of WIC Test Plots; Palmerton Zinc Superfund Site, Palmerton, Pennsylvania. Charlie Root. 12-8-2004.

Ref Type: Personal Communication

Ref ID: 442

Keywords: Lehigh Gap Nature Center/Palmerton/Palmerton Zinc Pile Superfund

Site/Pennsylvania/Reclamation/Superfund/Vegetation/Zinc/Palmerton Zinc/Palmerton Zinc Site

Notes: LGNC Computer

This correspondence provides the Biological Technical Assistance Group's comments on the 2004 total cover analysis and the root analysis and description of WIC test plots for the Palmerton Zinc Site.

Pluta, Bruce R. Coordinator Biological Technical Assistance Group. Preliminary Human Health and Ecological Risk Evaluation and Data Summary Report – Warm Season Grass Remediation Area; Palmerton Zinc Superfund Site, Palmerton, Pennsylvania; December 2004. Root, Charles. 2-23-2005.

Ref Type: Personal Communication

Ref ID: 449

Keywords: Grasses/heavy metals/Palmerton/Palmerton Zinc Pile Superfund

Site/Pennsylvania/Public Health/Reclamation/Risk Assessment/Superfund/Vegetation/Warm Season Grasses/Remediation/Palmerton Superfund Site/Superfund Site

Notes: LGNC Computer

This letter provides the Biological Technical Assistance Group's comments on the Preliminary Human and Ecological Risk Evaluation and Data Summary Report for the warm season grass remediation area at the Palmerton Superfund Site.

Poth, Charles W. Hydrology of the Martinsburg Formation in Lehigh and Northampton Counties.

Pennsylvania. Harrisburg, Pennsylvania: Pennsylvania Geological Survey, 1972.

Ref ID: 175

Keywords: Geology/Lehigh County/Northampton County/Map

Notes: Moravian College's Reeves Library and Lehigh University's E.W. Fairchild-Martindale Library

"The Martinsburg Formation underlies the northern half of Lehigh and Northampton Counties, and is of Middle and Late Ordovician age. It is bounded on the south by older Ordovician limestone

formation and on the north by a ridge-forming conglomerate of Silurian age." Book also includes helpful maps.

Pretz, H. W. "*Arenaria patula* in Pennsylvania." Bulletin of the Torrey Botanical Club.81 (1954).

Ref ID: 498

Keywords: Pennsylvania/Vegetation

R.E.Wright Associates, Inc. Palmerton Zinc Pile Unilateral Administrative Order- Administrative Record

File Volume I. 1-27-1988. Middletown, Pennsylvania, Earth Resources Consultants.

Ref Type: Catalog

Ref ID: 145

Keywords: Administrative Record File/heavy metals/Palmerton Zinc Pile Superfund Site/Public Health/Palmerton/Fact Sheet/Zinc/Soil/Soil

Sampling/Contamination/Cadmium/Lead/Copper/Plants/Risk Assessment/Metals

Notes: Palmerton Library, Book Case 3, Shelf 1

Binder

Binder includes a fact sheet explaining the details of the Administrative Record File and a report titled "Palmerton Zinc Off-Site Study Area Remedial Investigation and Risk Assessment." The report consists of three investigations, including a soil sampling "to determine the extent and severity of heavy metal contamination in Palmerton area soils," greenhouse and actual garden experiments "to evaluate the uptake of cadmium, lead, copper, and zinc by plants and to determine the effects of various soil treatments on uptake of cadmium and zinc by garden plants," and a risk assessment which evaluates "risks to Palmerton area residents from heavy metals in the environment."

R.E.Wright Associates, Inc. Sampling Information and Results from Draft Remedial Investigation for Operable Unit 3 of the Palmerton Zinc Pile Superfund Site. 2009. R.E. Wright Associates, Inc.

Ref Type: Report

Ref ID: 274

Keywords: Palmerton/Palmerton Zinc Pile Superfund Site/Soil/Soil

Sampling/Superfund/Zinc/Palmerton Zinc/Palmerton Zinc Site/EPA/Pennsylvania

Notes: Palmerton Library, Book Case 1, Shelf 1

Spiral bound booklet

"Two phases of soil sampling and analysis were conducted in and around the Palmerton Zinc site to assess the severity and extent of heavy metal concentration in soils resulting from smelter stack emissions. Both phases of sample collection were conducted by REWAI under the direction of U.S. EPA-EMSL, Las Vegas, and U.S. EPA Region III. Soil samples were analyzed by Pennsylvania State University Soil and Environmental Chemistry Laboratory."

R.E.Wright Associates, Inc. Earth Resources Consultants. Palmerton Zinc Off-Site Study Area- Draft of

Remedial Investigation and Risk Assessment

REWAI Project 8498

Volume II

Chapter 5-6. 1-27-1988. Middletown, Pennsylvania, R.E. Wright Associates, Inc.

Ref Type: Report

Ref ID: 278

Keywords: Cadmium/Contamination/Copper/Gulf and

Western/Lead/Map/Metals/Palmerton/Palmerton Zinc/Risk Assessment/Soil/Zinc

Notes: Palmerton Library, Book Case 1, Shelf 1

Spiral bound booklet

This report is the second of two volumes. It was prepared for Gulf and Western, Inc. and discusses Dr. Dale Baker's greenhouse study which was designed to evaluate the uptake of cadmium, copper, lead, and zinc by crops and the impacts of crop yields associated with increased levels of these metals. The study concluded that elevated soil concentration of zinc or zinc and cadmium resulted in increased plant mortality rates, thereby, limiting the crop yields of these soils. Also included is a risk assessment of the heavy metal contamination in Palmerton. Report includes great maps of the county, townships, boroughs, and the Palmerton plant locations and also has numerous figures and tables pertaining to Dr. Baker's study and the risk assessment.

R.E.Wright Associates, Inc. Earth Resources Consultants. Palmerton Zinc Off-Site Study Area- Draft of Remedial Investigation and Risk Assessment

REWAI Project 8498

Volume I, Chapter 1-4. 1-27-1988. Middletown, Pennsylvania, R.E. Wright Associates, Inc.

Ref Type: Report

Ref ID: 277

Keywords: General Information/Hazardous Substances/Map/Palmerton/Pollution/Soil/Zinc/Gulf and Western/Contamination/Remedial Investigation and Feasibility Study/Feasibility Study/Palmerton Zinc/Palmerton Zinc Off-Site Study Area

Notes: Palmerton Library, Book Case 1, Shelf 1

Spiral bound booklet

This report is the first of two volumes. It was prepared for Gulf and Western, Inc. and provides information on the Palmerton smelting facilities, the site location, the physiography, the nature and extent of the contamination, the effects of contaminants from smelting operations on off-site areas, a remedial investigation and feasibility study, Palmerton zinc off-site study areas, hazardous substances, and soil investigations. Report has great maps regarding the location of the site and has tables regarding Census data, pollution control, climatologically data, and data on heavy metal concentrations.

R.E.Wright Associates, Inc. Earth Resources Consultants. Palmerton Area Residential Study- Response Action Plan Palmerton Zinc Site. 1992. Middletown, Pa; King of Prussia, Pa; Westminster, Md.;

Irving, Tx., R.E. Wright Associates, Inc.

Ref Type: Report

Ref ID: 273

Keywords: heavy metals/Lead/Paint Sampling/Palmerton/Palmerton Zinc Pile Superfund Site/Soil Sampling/Water Sampling/Zinc/EPA/Water/Soil/Paint

Notes: Palmerton Library, Book Case 1, Shelf 1

Binder

The R.E. Wright Associates, Inc.'s study of lead found in Palmerton homes was prepared for

Paramount Communications, Inc. This study was mandated by the U.S. EPA and includes a collection and analyses of tap water, soil, dust, and paint samples from inside and outside the homes in Palmerton as well as a lead screening in the blood of children in selected homes. Report contains data regarding the study and shown in charts, graphs, and figures.

Reed, Barry P. Eighty Year Comparison of Bird Species Utilization at Lehigh Gap, PA. 1984.

Ref Type: Unpublished Work

Ref ID: 269

Keywords: Birds/Lehigh Gap/Lehigh Gap Nature Center/Ornithology

Notes: Lehigh Gap Nature Center- Papers from box

A documentation of birds seen by James Rehn at the Lehigh Gap from 1900-1903 compared to birds seen at the Lehigh Gap in the 1980s. Led to Masters Thesis (East Stroudsburg University)

Rehn, James A. G. "Notes on the Summer Birds of Lehigh Gap, Pennsylvania." Cassinia 7 (1903): 11-16.

Ref ID: 268

Keywords: Birds/Lehigh Gap/Ornithology/Vegetation/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A documentation of birds and some vegetation seen at the Lehigh Gap.

Root, Charles. "Innovative Organic Amendments Continue to Stabilize Slopes at Smelter Site."

Technology News and Trends 26 (2006).

Ref ID: 247

Keywords: General Information/Lehigh Gap/Reclamation/Soil/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

Details the contribution of soil in the Lehigh Gap reclamation process and contains pictures of the revegetating process

Rose, A. W. "Trace metals in stream sediments, Southeastern Pennsylvania, Part 4, the Allentown-Bethlehem Region and the Pennsylvania-Maryland border region." Bulletin of the Earth and Mineral Science Experiment Station.86 (1971).

Ref ID: 499

Keywords: heavy metals/Pennsylvania/Water

Rosen, Judith A., et al. "Zinc Toxicity in Corn as a Result of A Geochemical Anomaly." International Journal of Plant Nutrition Plant Chemistry, Soil Microbiology, and Soil-Borne Plant Diseases 50.1 (1978).

Ref ID: 255

Keywords: Soil/Zinc/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A study of corn grown in soil with abundant amounts of zinc. Article contains tables and diagrams related to the study.

Roy F. Weston, Inc. Baseline Human Health Risk Assessment- California Gulch Superfund Site- Leadville, Colorado

Part A- Risks to Residents from Lead- Draft for Public Comment. 11-6-1995. Lakewood, Colorado, Roy F. Weston, Inc.

Ref Type: Report

Ref ID: 332

Keywords: Lead/Mining/Public Health/Superfund/Palmerton/Superfund Site/Risk Assessment

Notes: Palmerton Library, Book Case 1, Shelf 4

"The California Gulch Superfund Site is located in and around the community of Leadville, Colorado, about 100 miles southwest of Denver. Leadville was the site of extensive mining, milling, and smelting operations beginning about 1860. Most of the operation had ceased by about 1900, although several facilities continued operations until the early 1960s. Nearly all of the mines within the site boundaries are presently inactive and all of the mills and smelters have been demolished...This document is Part of the risk assessment. The focus of the document is on risks to young children who may be exposed to lead in and about their residences, now or in the future." Report includes figures and tables depicting data.

Roy, David C. "Ordovician Through Mississippian Rocks, Lehigh River, Carbon County, Pennsylvania." Northeastern Section of the Geological Society of America. Ed. David C.Roy. Boulder, Colorado: Geological Society of America, 1987. 71-74.

Ref ID: 170

Keywords: Geology/Lehigh Gap/Lehigh River/Field Guide

Notes: Lehigh University, E.W. Faichild-Martindale Library

A geological field guide with a chapter specifically focusing on the area surrounding the Lehigh River.

Ruby, Michael V., et al. "Development of an in Vitro Screening Test to Evaluate the in Vivo Bioaccessability of Ingested Mine-Waste Lead." Environmental Science and Technology 27 (1993).

Ref ID: 426

Keywords: heavy metals/Lead/Public Health/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"A screening-level in vitro test was developed to evaluate the relative solubility of ingested lead (Pb) from different mine wastes in gastrointestinal (GI) tract...The experimental results indicate that ingestion of Pb-bearing mine wastes results in limited Pb solubility and that in vitro test provides a screening-level estimate of the maximum available Pb from mine wastes."

Sahagian, Dork, Peters, Stephen C., Yasko, George, Lofaro, Jennifer, Burrows, Jill, Blake, Johanna, and Smith, Kevin. Assessment of contamination and ecologic restoration efforts in the Palmerton, PA region. 2009. Lehigh University.

Ref Type: Report

Ref ID: 473

Keywords: heavy metals/Palmerton/Reclamation/Soil/Superfund/West Plant/EPA/Contamination/Metals



Notes: LGNC Computer

A report which provides background information on a study "funded by the US EPA Brownfields program to determine the extent of contamination of soils in the surrounding 'far-field' regions outside the superfund site." The study also explores "the metals concentrations in the soils of the West Plant itself, as this was excluded from the CERCLA process, so can be investigated as a brownfield."

Sarautsa, Sara Moir Atlanta Georgia. Comments on ATSDR Draft Report. Robert L. Bornschein Ph.D. and M. Kathryn Brown Ph.D. 6-30-1994.

Ref Type: Personal Communication

Ref ID: 291

Keywords: Cadmium/heavy metals/Lead/Palmerton/ATSDR/Pennsylvania

Notes: Palmerton Library, Book Case 1, Shelf 2

Letter gives comments on the ATSDR draft report, "Biological Indicators of Exposure to Cadmium and Lead; Palmerton, Pennsylvania; Part II."

Scherer, Barry W. and Geiger, Gerald D. Borough of Palmerton- "A Nice Place to Live" Annual Report and Achievements. 1986. Palmerton, Borough of Palmerton.

Ref Type: Report

Ref ID: 189

Keywords: History/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 5

"Contains information on the operation of Borough Government and summarizes its achievements during 1985 and 1986."

Schoener, E. "Reclaiming Blue Mountain: The Greening of a "Biological Desert" in Palmerton, Pennsylvania." [Ecological Newsletter Archive](#) (1990).

Ref ID: 245

Keywords: Blue Mountain/General Information/Lehigh Gap/Palmerton/Reclamation/Lehigh Gap Nature Center/Restoration

Notes: Lehigh Gap Nature Center- Papers from box

A general overview of the devastation and then restoration of the Lehigh Gap.

Senior Toxicologist. Letter with Attachment- Health Consultation: Palmerton Zinc Superfund Site- Palmerton, Pennsylvania. 6-12-1993.

Ref Type: Personal Communication

Ref ID: 429

Keywords: heavy metals/Housedust/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Superfund/Risk Assessment/Public/Public Comments/Metals/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund Site/Pennsylvania

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

Letter with attachment

"The U.S. Environmental Protection Agency has asked the Agency for Toxic Substances and Disease Registry to evaluate public health threats posed by exposures to metals detected in areas surrounding the Palmerton Zinc Superfund Site in Palmerton, Pennsylvania and to comment on their proposed removal response action levels in residential surface soil and dust within homes where children 6 years old and younger and/pregnant women reside." Attachment includes tables that depict the data.

Shealey, Tom. The Stone Coal Way: A Guide to Navigating the Delaware & Lehigh National Heritage Corridor Through Eastern Pennsylvania. Easton, Pennsylvania: Delaware & Lehigh National Heritage Corridor, 2004.

Ref ID: 515

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Pennsylvania

Notes: Lehigh Gap Nature Center

This book is a guide to the Delaware and Lehigh National Heritage Corridor and mentions the Lehigh Gap and the Lehigh Gap Nature Center.

Sherwood, W. Cullen. Structure of the Jacksonburg Formation in Northampton and Lehigh Counties, Pennsylvania. Harrisburg, Pennsylvania: Pennsylvania Geological Survey, 1964.

Ref ID: 176

Keywords: Geology/Lehigh County/Northampton County/Pennsylvania

Notes: Moravian College's Reeves Library

A book that "reports on a field study of the structure of the Jacksonburg in Northampton and Lehigh Counties, Pennsylvania. The Jacksonburg is composed of limestones and argillaceous limestones, which, in the area of study, have a maximum thickness of 1,150 feet. A conglomerate at the base of the formation contains dolomite and chert pebbles, probably derived from the underlying Beekmantown group. The upper part of the formation grades into the overlying Martinsburg slate."

Shiwen, Cai, et al. "Cadmium Exposure and Health Effects among Residents in an Irrigation Area with Ore Dressing Wastewater." Institute of Environmental Health and Engineering, Chinese Academy of Preventative Medicine (1989).

Ref ID: 428

Keywords: Cadmium/heavy metals/Public Health/Risk Assessment/Public/Public

Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

A study of cadmium intake in residents living in polluted areas.

Sileo, L. and W. N. Beyer. "Heavy metals in white-tailed deer living near a zinc smelter in Pennsylvania." Journal of Wildlife Diseases 21 (1985): 289-96.

Ref ID: 266

Keywords: heavy metals/White-tailed deer/Wildlife/Zinc/Zinc smelter/Lehigh Gap/Lehigh Gap Nature Center/Metals

Notes: Lehigh Gap Nature Center- Papers from box

A study of white-tailed deer living close to the zinc smelters and the effects and abundance of heavy metals in their tissues. Article includes graphs and tables that depict data.

Slade, David. "EPA Has \$11.1 Million Plan to Clean Up Palmerton Area." The Morning Call 6 June 2000.

Ref ID: 226

Keywords: Arsenic/Cadmium/heavy metals/Lead/Media/Palmerton/Palmerton Citizens/Lehigh Gap/Lehigh Gap Nature Center/EPA

Notes: Lehigh Gap Nature Center- Papers from box

An article about the U.S. EPA proposing an \$11.1 million plan to clean up 2,400-3,000 Palmerton area homes and yards contaminated with lead, arsenic, and cadmium.

---. "Palmerton's Split Over Pollution Woes Spills Over Into Court." The Morning Call 2 Oct. 2000.

Ref ID: 224

Keywords: Media/Pollution/Palmerton/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article about the court battles over pollution in Palmerton.

---. "Reseeding Could Close Part of the Appalachian Trail." The Morning Call 26 Sept. 2000.

Ref ID: 225

Keywords: Blue Mountain/Media/Palmerton/The Appalachian Trail/Warm Season Grasses/Lehigh Gap/Lehigh Gap Nature Center/Grasses

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article the Appalachian Trail near Palmerton potentially being "temporarily rerouted or closed in 2001 to accommodate a plan calling for the airborne dumping of sewage sludge and grass seed on Blue Mountain."

Sloane, Wick. "Palmerton's Gardens Polluted By Cadmium." Express 19 Jan. 1981.

Ref ID: 223

Keywords: heavy metals/Media/Palmerton/Soil/Vegetation/Lehigh Gap/Lehigh Gap Nature Center/Metals/Plants/Lead

Notes: Lehigh Gap Nature Center- Papers from box

A newspaper article about the "high levels of toxic metals in soils and plants around Palmerton" which "may lead to state recommendations that residents refrain from planting gardens or eating locally grown foods, pending further tests."

Sopper, W. E. "Evaluation of the second year effects of the sludge-fly ash amendmentson surface soil chemical properties and vegetation growth responses." ER8801 (1988).

Ref ID: 500

Keywords: Soil/Vegetation

Sopper, William E. "Reclamation of the Palmerton Superfund Site." Proceedings 1987 National Symposium on Mining, Hydrology, Sedimentology, and Reclamation (1987).

Ref ID: 424

Keywords: Blue Mountain/heavy metals/Palmerton/Palmerton Zinc Pile Superfund Site/Reclamation/Superfund/Vegetation/Zinc/Pennsylvania/Zinc smelter/Remedial Action/Grasses/Metals

Abstract: "Over 800 ha of forest vegetation are dead on Blue Mountain at Palmerton, Pennsylvania. The major cause was emissions of Zn, Cu, Pb, and SO<sub>2</sub> from zinc smelter operating since 1898. In 1982, the site was designated as a "Superfund" site by the U.S. Environmental Protection Agency. In 1985, a cooperative effort was launched to develop a remedial action program to mitigate the environmental damage. Greenhouse and field plot studies were conducted to determine the feasibility of using mixtures of dewatered municipal sludge and fly ash (FA) were evaluated...Twelve grass and legume species and 12 tree species were screened. Results of first-year growth response measurements indicated that all three treatments were successful in establishing a vegetative cover. Foliar analyses indicated high levels of trace metals in some species but no phytotoxicity symptoms were observed except for Mn toxicity on a few red oak and red apple seedlings."

Notes: LGNC Computer

Stabinsky, Danielle, Jouraeva, Venera, Giardello, Todd, Orben, Kaylan, and Wright, Judith. Remediation of Heavy Metal Contaminated Soil Using Apatite II. 2009. Kutztown University.

Ref Type: Pamphlet

Ref ID: 423

Keywords: heavy metals/Soil

Notes: LGNC Computer

This poster provides information on a research project on soil done by Kutztown University.

Steele, Michael. Food Webs and Ecosystem Restoration. 7-8-2008. Wilkes University.

Ref Type: Report

Ref ID: 120

Keywords: Ecosystem/Food Web/Ecosystems/Restoration/Food webs/Pennsylvania/Conservation/Lehigh Gap/Lehigh Gap Nature Center

Abstract: "With increasing human impact on natural ecosystems, there needs to be greater attention to the processes of ecosystem restoration. In addition to restoring plant cover and an appropriate mix of species, it is also necessary to restore ecosystem function. An important measure of ecosystem structure and function is the food web which represents the linkages between the organisms that make up a particular ecosystem. Food webs have been an important element of ecological investigation for many years. However, only recently has theoretical understanding of food webs advanced to a level that it can generate testable hypotheses about ecosystem function. We propose to take advantage of a unique opportunity to study the reassembly of a terrestrial food web during the restoration of a severely degraded ecosystem in northeast Pennsylvania. This will enable us to develop criteria which can be used to evaluate restored ecosystems and thereby determine to what extent they have achieved the functionality of existing natural ecosystems. We hope to take advantage of new developments in the theory of food webs in proposing these criteria. If we are successful, we will have helped to bridge the gap that lies between academic conservation biology and conservation practice."

Notes: Lehigh Gap Nature Center Computer

Sterrett, S. B., et al. "Influence of Fertilized and Sewage Sludge Compost on Yield and Heavy Metal Accumulation By Lettuce Grown in Urban Soils." Environmental Geochemistry and Health (1993).

Ref ID: 410

Keywords: Cadmium/heavy metals/Lead/Soil/Vegetation/Zinc/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"Previous research has demonstrated that many urban soils are enriched in Pb, Cd, and Zn. Culture of vegetable crops in these soils could allow transfer of pots of 5 urban garden soils and 1 control agricultural soil to assess the effect of urban soil metal enrichment, and the effect of soil amendments, on heavy metal uptake by garden vegetables."

Stilman, Terry Eastern Response Section. Toxicological Consultation for Palmerton Zinc Pile Superfund Site. Roy L. Smith, Ph. D. Senior Toxicologist Technical Support Section U. S. EPA. 1-31-1994.

Ref Type: Personal Communication

Ref ID: 290

Keywords: Palmerton/Palmerton Zinc Pile Superfund Site/Pollution/Superfund/Zinc/Palmerton Zinc/Palmerton Zinc Pile/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 2

A letter regarding the pollution at the Palmerton Zinc Pile Superfund Site.

Storm G.L., Bellis, E., Yahner, R., and DeLong, T. Final Report for Research Work Order No. 21, Impact Assessment of Wildlife Resources at the Palmerton Superfund Site, Pennsylvania. 1989.

University Park, Pennsylvania, Pennsylvania Cooperative Fish and Wildlife Research Unit, Pennsylvania State University.

Ref Type: Report

Ref ID: 501

Keywords: Palmerton/Palmerton Superfund Zinc Pile Superfund Site/Pennsylvania/Superfund/Wildlife

Storm G.L., G. J. Fosmire, and E. D. Bellis. "Persistence of metals in soil and selected vertebrates in the vicinity of the Palmerton zinc smelters." Journal of Environmental Quality 25 (1994): 508-14.

Ref ID: 265

Keywords: Palmerton/Soil/Wildlife/Zinc/Metals/Palmerton Zinc/Zinc smelter/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

A study of the level of metals in the tissues of wildlife located near the Palmerton zinc smelters.

Article includes graphs and tables which depict data.

Storm, G. L., R. Yahner, and E. Bellis. "Vertebrate Abundance and Wildlife Habitat Suitability near the Palmerton zinc smelters, Pennsylvania." Environmental Contamination and Toxicology 25 (2009): 428-37.

Ref ID: 264

Keywords: Map/Palmerton/Palmerton Zinc/Palmerton Zinc Pile Superfund

Site/Vertebrates/Wildlife/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Palmerton Zinc Site

Notes: Lehigh Gap Nature Center- Papers from box

A study conducted to determine the quantity and distribution of vertebrate within the Palmerton Zinc Site and the suitability of the habitat for different wildlife. Article contains maps, tables, and graphs that depict data.

Strojan, C. L. "Forest leaf litter decomposition in the vicinity of a zinc smelter." Oecologia 38 (1978): 203-12.

Ref ID: 260

Keywords: Palmerton/Soil/Vegetation/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Pennsylvania/Leaf litter/Zinc smelter

Notes: Lehigh Gap Nature Center- Papers from box

Data was collected to determine the weight loss of sassafras, chestnut oak, and red oak leaves in Palmerton, Pennsylvania. Leaf litter was also collected to determine the rate of decomposition on the forest floors near the zinc smelter. Article includes tables and graphs that depict data.



---. "The impacts of zinc smelter emissions on forest litter arthropods." Oikos 31 (1978): 41-46.

Ref ID: 258

Keywords: Arthropods/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Zinc smelter

Notes: Lehigh Gap Nature Center- Papers from box

A study conducted to determine the population density of arthropods in three mixed-oak forests located close to the zinc smelter.

Synder, Brian M., et al. "Evaluation of Soil-Washing Process for "Unwashable" Clays and Silts from the Palmerton Zinc Site." Remediation Journal 6.1 (2006): 69-80.

Ref ID: 401

Keywords: heavy metals/Palmerton/Palmerton Zinc Pile Superfund Site/Soil/Zinc/Contamination

Notes: Found in the Grey Binder- Palmerton Borough Studies 1983 to 1996 at the Palmerton Library, Book Case 1, Shelf 1

Published online Dec., 2006

<http://www3.interscience.wiley.com/journal/113512330/abstract?CRETRY=1&SRETRY=0>

"A soil washing process for 'unwashable' clays and silts has been developed. A residential soil sample from Palmerton, which had low concentrations of zinc, was washed in a bench-scale version of this process. The results showed that the new soil-washing process for 'unwashable' clays and silts may be a viable method to treat the soil and dust contamination in Palmerton, depending on the soil quality criteria concentrations selected for site cleanup." Article includes tables and graphs which depict the data.

The National Lead Information Center. Questions Parents Ask About Lead Poisoning. 2009.

Ref Type: Pamphlet

Ref ID: 164

Keywords: Fact Sheet/Hazardous Substances/heavy metals/Lead/Public Health/Palmerton/Paint

Notes: Palmerton Library, Book Case 3, Shelf 2

Stack of papers

A fact sheet which provides information about lead poisoning, how to test your home for lead, and

how to work with lead-based paint. Sheet also provides a list of people to contact for additional information about lead.

The New Jersey Zinc Company. The Technical Department of the New Jersey Zinc Company. New York, New York: Privately printed for the New Jersey Zinc Company, 1930.

Ref ID: 159

Keywords: The New Jersey Zinc Company/Zinc/Palmerton/New Jersey Zinc Company

Notes: Palmerton Library, Book Case 3, Shelf 2

A book about the New Jersey Zinc Company, including information about the technical department, the fundamental research division, the field research division, the pigment research development, the metal research development, the service division, the hygienic and medical aspects of zinc, the uses of zinc and its byproducts, and the products of the New Jersey Zinc Company.

The New Jersey Zinc Company. Making Zinc: Our Contribution to Better Living. 2-10-1940. Palmerton, Pennsylvania, The New Jersey Zinc Company.

Ref Type: Pamphlet

Ref ID: 73

Keywords: Mining/Palmerton/The New Jersey Zinc Company/Zinc/Pennsylvania

Notes: Palmerton Library, Book Case 2, Shelf 6

Booklet contains information on mining zinc in Franklin, New Jersey and manufacturing the zinc in Palmerton, Pennsylvania. This booklet also describes the different products that contain zinc.

---. The Story Behind a Trade Mark. New York, New York: The New Jersey Zinc Company, 1946.

Ref ID: 155

Keywords: Horsehead Industries,Inc./The New Jersey Zinc Company/Zinc/Palmerton/New Jersey Zinc Company/Horsehead Industries

Notes: Palmerton Library, Book Case 3, Shelf 2

Booklet provides information about the New Jersey Zinc Company and Horsehead Industries and explains the numerous uses for zinc.

---. The First Hundred Years of the New Jersey Zinc Company. New York, New York: The New Jersey Zinc Company, 1948, 1-70.

Ref ID: 58

Keywords: Horsehead Industries/New Jersey Zinc Company/Palmerton/History/The New Jersey Zinc Company/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 5

This book explains the history of the founding and development of the New Jersey Zinc Company.

The New Jersey Zinc Company and Harvey E. Brown. Zinc Oxide Rediscovered. Ed. Harvey E. Brown. New York, New York: The New Jersey Zinc Company, 2009.

Ref ID: 199

Keywords: Horsehead Industries, Inc./The New Jersey Zinc Company/Zinc

Notes: Palmerton Library, Book Case 3, Shelf 6

This book provides information on the properties, manufacturing process, and uses of zinc oxide.

The Palmerton Natural Resource Trustee Council, Commonwealth of Pennsylvania, U.S. Department of the Interior, and U.S. Department of Commerce. Palmerton Zinc Pile Superfund Site Natural Resource Damage Assessment Plan. i-41. 2005.

Ref Type: Report

Ref ID: 23

Keywords: Damage Assessment/heavy metals/Palmerton Zinc Pile Superfund

Site/Superfund/Palmerton/Public/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund Site/Carbon County/Pennsylvania/Metals/Restoration

Notes: Palmerton Library, Book Case 1, Shelf 6

Binder

"Three Federal and four State agencies responsible for managing natural resources on behalf of the public are jointly conducting a natural resource damage assessment (NRDA) of resources in the vicinity of the Palmerton Zinc Pile Superfund Site, Carbon County, Pennsylvania that have

been impacted by the release of metals from this site. This Natural Resource Damage Assessment Plan provides information on planned and ongoing studies designed to evaluate past, current, and future impacts to these resources and services they provide. In addition, the Plan outlines how information gathered from these studies will be used to determine how much restoration is needed to address these impacts." This report includes tables which depict data.

The Palmerton Natural Resource Trustee Council. Data Report for the Scoping Study on Metal Contaminant Levels in Forest Soils and Concurrent Habitat Evaluation for the Palmerton Zinc Natural Resource Damage Assessment Palmerton, Pennsylvania. 1-25. 1-30-2007. Palmerton, Pennsylvania, The Palmerton Natural Resource Trustee Council.

Ref Type: Report

Ref ID: 464

Keywords: heavy metals/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Metals/Public/Palmerton Zinc/Zinc

Notes: LGNC Computer

"This report documents the results of a soils scoping study conducted in the fall of 2004 to provide information on the concentration and extent of soil metals on public and private lands supporting natural resources. The soils scoping study was planned and implemented by the Palmerton Trustee Council in cooperation with CBS Operations Inc. (formerly Viacom Inc.) as part of the Palmerton Zinc Natural Resource Damage Assessment." Also included in the report are tables and graphs depicting data.

Tunnell, D. M., R. M. Dennis, and M. J. S Roth. "Soil-washing Evaluation Program for Palmerton Zinc Site." Journal of Environmental Science and Health A31.6 (1996): 1459-68.

Ref ID: 543

Keywords: Palmerton/Palmerton Zinc/Palmerton Zinc Site/Soil/Zinc

U.S.Army Corps of Engineers. Appendix C3- Intermediate Wheat Grass Tissue. 1994.

Ref Type: Report

Ref ID: 149

Keywords: Ecoloam/Vegetation/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 1

A stack of loose papers that includes data from monitoring the success of tree establishment in the ecoloam area.

U.S.Congress Office of Technology Assessment. Are We Cleaning Up? 10 Superfund Case Studies.

1988. Washington D.C., U.S. Government Printing Office.

Ref Type: Report

Ref ID: 190

Keywords: Superfund/Palmerton/Superfund Site/Conservation

Notes: Palmerton Library, Book Case 3, Shelf 5

Booklet

This report provides information on the following Superfund Sites: Chemical Control Corporation in Elizabeth, New Jersey; Compass Industries in Tulsa County, Oklahoma; Conservation Chemical Company in Kansas City, Missouri; Crystal City Airport in Crystal City, Texas; Industrial Excess Landfill in Uniontown, Ohio; Pristine, Inc. in Reading, Ohio; Renora, Inc. in Edison Township, New Jersey; Sand Springs Petrochemical Complex in Tulsa County, Oklahoma; Schmalz Dump Site in Harrison, Wisconsin; and Tacoma Tar Pits in Tacoma, Washington.

U.S.Department of Human Health and Services, Public Health Service, and Agency for Toxic Substances and Disease Registry. Biological Indicators of Exposure to Cadmium and Lead Draft Part I. 1993.

Ref Type: Report

Ref ID: 286

Keywords: Cadmium/heavy metals/Lead/Map/Palmerton/Pennsylvania/Public Health

Notes: Palmerton Library, Book Case 1, Shelf 2

Binder

This report is part one of two parts and discusses the Pennsylvania Department of Health, with technical assistance from the Agency for Toxic Substances and Disease Registry, exposure study which was conducted in 1991 to determine whether residents in Palmerton had been

exposed to excess amounts of cadmium and lead. Report contains maps, tables, and graphs regarding the study.

U.S.Department of Human Health and Services, Public Health Service, and Agency for Toxic Substances and Disease Registry- Public Health Services- U.S.Department of Health and Human Services. Biological Indicators of Exposure to Cadmium and Lead Draft Part II. 1994. Atlanta, Georgia.

Ref Type: Report

Ref ID: 287

Keywords: heavy metals/Palmerton/Palmerton Citizens/Public Health

Notes: Palmerton Library, Book Case 1, Shelf 2

Binder

This report is part two of two and it assesses the results of the medical test battery which was a panel of medical tests designed to assess the hematopoietic (blood) and hepatobilliary (liver), immune, and renal (kidney) systems. Report contains numerous tables regarding the aforementioned data.

U.S.Department of Justice. U.S. Enters Into Settlement Requiring Cleanup at the Palmerton Zinc Superfund Site.2003.

Ref ID: 393

Keywords: Horsehead Industries,Inc./Palmerton/Palmerton Zinc Pile Superfund

Site/Pennsylvania/Reclamation/Superfund/Zinc/Horsehead Industries/Palmerton Zinc/Palmerton Zinc Pile/Superfund Site/EPA

Notes: LGNC Computer; Internet source: <http://www.usdoj.gov/>

"The Department of Justice, Environmental Protection Agency, and Department of the Interior today announced that they have entered into a consent decree with Viacom International Inc., TCI Pacific Communications, Inc., Horsehead Industries, Inc., and Horsehead Resource Development Company, Inc. in connection with the Palmerton Zinc Pile Superfund site, located in Palmerton, Pennsylvania. Under the proposed settlement, the parties will pay approximately \$12.85 million into the Superfund account, to reimburse monies spent by EPA, and will perform

cleanup work at the site valued at \$27 million. The parties have also agreed to reimburse past and future costs incurred by the Department of Interior at the site in the amount of \$700,000."

U.S.EPA. Evaluation of Runoff and Discharges from the New Jersey Zinc Company. 1979. Denver, Colorado, National Enforcement Investigations Center.

Ref Type: Report

Ref ID: 17

Keywords: Aquashicola Creek/Cinder Bank/East Plant/Palmerton/Runoff/The New Jersey Zinc Company/Zinc/Pennsylvania

Notes: Palmerton Library, Book Case 1, Shelf 6

Spiral-bounded booklet

"From May 1 to 15, 1979, NEIC conducted an investigation of the New Jersey Zinc Company's East Plant at Palmerton, Pennsylvania. The study consisted of a characterization of Aquashicola Creek, an evaluation of the Cinder Bank and its impact on the creek, an evaluation of East Plant discharges, and development of Best Management Practices for the plant."

U.S.EPA. Palmerton Zinc Pile- OU1 Administrative Record File Volume V. 1984. U.S. EPA Region III.

Ref Type: Catalog

Ref ID: 35

Keywords: Administrative Record File/OU 1/Palmerton Zinc Pile Superfund

Site/Palmerton/EPA/Palmerton Zinc/Palmerton Zinc Pile/Palmerton Zinc Pile Site/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 1

A U.S. EPA binder which includes documentation of community involvement, congressional correspondence, and imagery of Operable Unit 1 of the Palmerton Zinc Pile Site.

U.S.EPA. EPA Documents. 1986. U.S. EPA.

Ref Type: Catalog

Ref ID: 193

Keywords: Palmerton/Palmerton Zinc Pile Superfund Site/Vegetation/Zinc/EPA/Palmerton Zinc/Palmerton Zinc Site/Soil

Notes: Palmerton Library, Book Case 3, Shelf 5

A manila folder filled with various EPA Documents from 1985-1986 regarding the Palmerton Zinc Site. Documents include soil grid sampling sites and data, sample bank procedures, vegetation samples, and letters and correspondences.

U.S.EPA. Palmerton Zinc Enforcement Removal Administrative Record File. 1986. U.S. EPA.

Ref Type: Catalog

Ref ID: 387

Keywords: Administrative Record File/Palmerton/Palmerton Zinc Pile Superfund

Site/Superfund/EPA/Administrative Order

Notes: Palmerton Library, Book Case 3, Shelf 4

Binder

This binder is an Administrative Record File, meaning that it "is a collection of key documents that EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." Included in this Administrative Record File are enforcement documents which "contain information relevant to the response action. Such documents can be administrative orders, consent decrees, and correspondence with PRP."

U.S.EPA. East Helena, Montana- Child Lead Study. 1986.

Ref Type: Report

Ref ID: 275

Keywords: Environmental Health/Lead/Public Health/Superfund/Palmerton/Public

Notes: Palmerton Library, Book Case 1, Shelf 1

Spiral bound booklet

"In 1983, an integrated epidemiologic study was conducted in the Helena Valley of Montana to assess children's blood lead levels and the relationship of these levels to the levels of lead in different environmental media." The following agencies participated in the study: Lewis and Clark County Health Department, Montana Department of Health and Environmental Sciences, Center



for Environmental Health, Centers for Disease Control, Public Health Service, U.S. Department of Health and Human Services, Atlanta, Georgia.

U.S.EPA. Palmerton Zinc Pile Site Second De Minimis Settlement Administrative Record File Guidance Documents. 1987. U.S. EPA.

Ref Type: Catalog

Ref ID: 384

Keywords: De Minimis Administrative Record File/Palmerton/Palmerton Zinc Pile Superfund Site/Zinc/EPA/Responsible Party

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder contains guidance documents for the U.S. EPA to aid in making the De Minimis settlements for the potentially responsible parties.

U.S.EPA. EPA Superfund Record of Decision Palmerton Zinc Pile Site. 9-4-1987. Palmerton, Pennsylvania, U.S. EPA.

Ref Type: Report

Ref ID: 133

Keywords: Blue Mountain/Lehigh Gap Wildlife Refuge/Palmerton Zinc Pile Superfund Site/Superfund/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

The document assesses the defoliation of Blue Mountain and also describes the potential options for Superfund action.

U.S.EPA. Palmerton Zinc Superfund Site Blue Mountain Project. 1987. Philadelphia, Pennsylvania, U.S. EPA.

Ref Type: Report

Ref ID: 321

Keywords: Blue Mountain/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Remedial Investigation and Feasibility Study/Superfund/Pennsylvania/Contamination/Human Health/Remedial Action

Notes: Palmerton Library, Book Case 1, Shelf 3

"The purpose of this report is to summarize the results of a Superfund Remedial Investigations/Feasibility Study that focused on the defoliated sections of Blue Mountain in Palmerton, Pennsylvania. This report will document the extent of contamination, the migration of the contaminants, and the risks the site presents to human health and welfare and the environment. In addition, the report will identify and evaluate remedial action alternative for the defoliated sections of Blue Mountain."

U.S.EPA. Demonstration of the E.I. Dupont De Nemours & Company/Oberlin Filter Company

Microfiltration Technology- Palmerton Zinc Superfund Site. 4-10-1990. U.S. EPA.

Ref Type: Report

Ref ID: 198

Keywords: Palmerton/Palmerton Zinc Superfund Site/Zinc/Palmerton Zinc/Palmerton Zinc Site

Notes: Palmerton Library, Book Case 3, Shelf 6

Spiral Booklet

"Presents background information on the SITE program, the DuPont/Oberlin technology, the Palmerton Zinc Site, and the criteria and methods that will be used to evaluate the technology."

U.S.EPA. Research and Development- Technical Support Document on Lead- Preliminary Draft. 1990.

Ref Type: Report

Ref ID: 167

Keywords: heavy metals/Lead/Public Health/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 2

Stack of papers

"This report summarizes relevant information on health effects of lead and on lead exposure and presents a description of a proposed modeling approach for deriving media-specific criteria that can tailored to specific exposure scenarios or cases."

U.S.EPA. Superfund Update- Palmerton Zinc Site. 1991. U.S. EPA Region III.

Ref Type: Report

Ref ID: 322

Keywords: Fact Sheet/General Information/Palmerton/Palmerton Zinc Pile Superfund

Site/Superfund/Zinc/EPA/Public/Palmerton Zinc

Notes: Palmerton Library, Book Case 1, Shelf 3

"The U.S. Environmental Protection Agency (EPA) Region III Office of Public Affairs prepared this Fact Sheet to inform interested citizens and local officials of EPA's activities at the Palmerton Zinc Site."

U.S.EPA. Palmerton Zinc Site Removal Administrative Record File Volume IV. 1991. U.S. EPA.

Ref Type: Catalog

Ref ID: 388

Keywords: Administrative Record File/Palmerton/Palmerton Zinc Pile Superfund

Site/Superfund/EPA

Notes: Palmerton Library, Book Case 3, Shelf 4

Binder

This binder is an Administrative Record File, meaning that it "is a collection of key documents that EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." Included in this Administrative Record File are policy and guidance documents which are "literature used in aiding the project officer in site activities such as site specific policy issues, program guidance documents, and technical literature."

U.S.EPA. Palmerton Zinc Enforcement Removal Administrative Record File #1. 3-5-1992. U.S. EPA.

Ref Type: Catalog

Ref ID: 386

Keywords: Administrative Record File/Palmerton/Palmerton Zinc Pile Superfund

Site/Superfund/EPA/Administrative Order

Notes: Palmerton Library, Book Case 3, Shelf 4

Binder

This binder is an Administrative Record File, meaning that it "is a collection of key documents that

EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." Included in this Administrative Record File are enforcement documents which "contain information relevant to the response action. Such documents can be administrative orders, consent decrees, and correspondence with PRP."

U.S.EPA. Palmerton Zinc Site Second Draft Field Trip Report. 10-28-1992. Washington, D.C., U.S. EPA.

Ref Type: Report

Ref ID: 205

Keywords: Dust Sampling/Paint Sampling/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil Sampling/Water Sampling/Water/Soil/Paint/Palmerton Zinc/Palmerton Zinc Site/Zinc

Notes: Palmerton Library, Book Case 3, Shelf 6

Spiral binder booklet

This report documents field sampling activities from the dust, water, soil, and paint sampling at residences in the vicinity of the Palmerton Zinc Site. Report also "presents analytical results and correlates field observations with analytical findings for the environmental sampling effort."

U.S.EPA. Palmerton Zinc Site Removal Administrative Record File Volume V. 1992.

Ref Type: Catalog

Ref ID: 389

Keywords: Administrative Record File/Palmerton/Palmerton Zinc Pile Superfund Site/EPA/Superfund/Administrative Order

Notes: Palmerton Library, Book Case 3, Shelf 4

Binder

This binder is an Administrative Record File, meaning that it "is a collection of key documents that EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." Included in this Administrative Record File are enforcement documents which "contain information relevant to the response action. Such documents can be administrative orders, consent decrees, and correspondence with PRP."

U.S.EPA. Palmerton Zinc Removal Administrative Record File. 1993.

Ref Type: Report

Ref ID: 188

Keywords: Administrative Record File/Dust Sampling/Paint Sampling/Palmerton/Palmerton Zinc Pile Superfund Site/Water Sampling/EPA/Superfund/Zinc/Water/Soil/Paint/Palmerton Zinc/Palmerton Zinc Site/Map/Public/Public Health/Hazardous Substances/Household Dust

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder

"An Administrative Record File is the collection of key documents that EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." This binder contains various documents including a report titled "Palmerton Zinc Site Field Trip- Final Report" which documents field sampling activities, and presents analytical results and field observations" for the sampling of dust, water, soil, and paint that occurred in the Fall of 1991 at residences in the vicinity of the Palmerton Zinc site. Binder also contains several maps of the site and decision documents regarding the "removal response actions...because there may be an imminent and substantial endangerment to public health or welfare or the environment due to the presence of uncontrolled hazardous substances in the surface soils and household dust at the Palmerton Zinc Superfund Site."

U.S.EPA. Plant Tissue and Soil Appendices. 1994. U.S. EPA.

Ref Type: Catalog

Ref ID: 194

Keywords: Soil/Vegetation/Palmerton/Metals/Water/EPA

Notes: Palmerton Library, Book Case 3, Shelf 5

A pile of loose papers labeled "Appendix" from the EPA's plant tissue and soil studies. Appendices are titled Tree Leaf Tissue, Soil Extraction Procedures, Chain of Custody, TCLP Extractable Metals, Water Soluble Metals, DTPA Extractable Metals, EPA Nitric Acid Extractable Metals, and Percent Soil and Gravel.

U.S.EPA. Palmerton Zinc Removal Administrative Record File. 11-9-1994. U.S. EPA.

Ref Type: Catalog

Ref ID: 385

Keywords: Administrative Record File/Palmerton/Palmerton Zinc Pile Superfund

Site/Pollution/Public Comments/Superfund/EPA/Public

Notes: Palmerton Library, Book Case 3, Shelf 4

Binder

This binder is an Administrative Record File, meaning that it "is a collection of key documents that EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." This Administrative Record File contains factual information and data which "includes documents concerning field activity such as: pollution reports, sampling data, sampling plan, and when appropriate, the On Scene-Coordinator's Report which summarizes all the activities conducted at the site," policy and guidance documents which "includes literature used in aiding the project officer in site activities such as: site specific policy issues, program guidance documents, and technical literature," and documents regarding public participation which "includes information pertaining to the community's involvement with the site such as: public notices, press releases, public comments, and when appropriate, the community relations plan."

U.S.EPA. Palmerton Zinc Administrative Record File De minimis Settlement. 7-12-1995. U.S. EPA.

Ref Type: Catalog

Ref ID: 383

Keywords: Carbon County/De Minimis Administrative Record File/Hazardous

Substances/Palmerton/Palmerton Zinc Pile Superfund Site/Pennsylvania/Zinc/EPA/Palmerton Zinc/Palmerton Zinc Pile/Palmerton Zinc Pile Site/Administrative Order

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder contains information from the U.S. EPA on the de minimis settlement for the Palmerton Zinc Pile Site. Documents include letters, correspondences, administrative orders, determination of De Minimis Status by the Regional Administrator, and the following reports:

~ Toxicological Summary and Analysis of Sample Data from 24 Homes in Palmerton,

Pennsylvania (1991), prepared by U.S. EPA

~ Hazardous Substances Source Identification Study, Palmerton Zinc CERCLA Site, Carbon County, Pennsylvania- Volumes 1, 2, and 3 (1994), prepared by The National Enforcement Investigations Center

U.S.EPA. Palmerton Zinc OU3 Enforcement Removal Administrative Record File Volume III. 1996. U.S. EPA.

Ref Type: Catalog

Ref ID: 390

Keywords: Administrative Record File/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/EPA/Administrative Order

Notes: Palmerton Library, Book Case 3, Shelf 4

Binder

This binder is an Administrative Record File for Operable Unit 3, meaning that it "is a collection of key documents that EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." Included in this Administrative Record File are enforcement documents which "contain information relevant to the response action. Such documents can be administrative orders, consent decrees, and correspondence with PRP."

U.S.EPA. Palmerton Zinc Pile Site Second De Minimis Settlement Administrative Record File Volume II.

3-25-1998. U.S. EPA.

Ref Type: Catalog

Ref ID: 382

Keywords: Cadmium/De Minimis Administrative Record File/heavy metals/Lead/Palmerton/Palmerton Zinc Pile Superfund Site/Soil/Zinc/EPA/Palmerton Zinc/Palmerton Zinc Pile/Palmerton Zinc Pile Site/Contamination/Remediation

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder contains information from the U.S. EPA on the second de minimis settlement for the Palmerton Zinc Pile Site, Operable Unit 3. Documents include descriptions of the following:

- ~ The Removal Action which "included the reduction of exposure to heavy metal contamination in residential soil and household dust"
- ~ Project dates and funding for the residential clean-up
- ~ Analytical data of the hazardous material on the site (lead, zinc, and cadmium)
- ~ The cleanup contractor (Earth Tech Remediation Services)
- ~ The on-scene coordinator (Michael Towle)

U.S.EPA. Palmerton Zinc Pile Site Second De Minimis Settlement Administrative Record File- Volume I.

3-29-1999. U.S. EPA.

Ref Type: Catalog

Ref ID: 381

Keywords: Carbon County/Cinder Bank/De Minimis Administrative Record File/Hazardous Substances/Palmerton/Palmerton Zinc Pile Superfund Site/Zinc/EPA/Palmerton Zinc/Palmerton Zinc Pile/Palmerton Zinc Pile Site/Palmerton Zinc Site/Pennsylvania

Notes: Palmerton Library, Book Case 3, Shelf 3

Binder contains information from the U.S. EPA on the second de minimis settlement for the Palmerton Zinc Pile Site. Documents include various letters, correspondences, signature pages, and the following reports:

- ~ Engineering Evaluation and Cost Analysis for Palmerton Zinc Site, Cinder Bank Operable Unit (1989), prepared by Black & Veatch, Incorporated
- ~ Enforcement Confidential, Hazardous Substances Source Identification Study, Palmerton Zinc CERCLA NPL Site, Carbon County, Pennsylvania- Volumes 1, 2, and 3 (1994), prepared by the U.S. EPA

U.S.EPA. Palmerton Zinc Pile Administrative Record File OU 3. 2001. U.S. EPA.

Ref Type: Computer Program

Ref ID: 392

Keywords: Administrative Record File/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Palmerton Zinc/Palmerton Zinc Site/Zinc



Notes: Palmerton Library, Book Case 3, Shelf 4

This computer disc contains all the Administrative Record Files pertaining to Operable Unit 3 of the Palmerton Zinc Site. Disc allows a person to search for different sources.

U.S.EPA. Superfund Program- Record of Decision- Palmerton Zinc Site Operable Unit #3 Community Soils. 2001. Palmerton, Pennsylvania.

Ref Type: Catalog

Ref ID: 6

Keywords: Community Soils/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Record of Decision/Remedial Action/Soil/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund/Superfund Site/Hazardous Substances/Pollution

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

"The decision document presents the final selected remedial action for Community Soils, Operable Unit #3, Palmerton Zinc Superfund Site. The remedial action was selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 and the National Oil and Hazardous Substances Pollution Contingency Plan. This decision is based on the Administrative Record for the Site."

U.S.EPA. EPA Superfund Explanation of Significant Differences: Palmerton Zinc Pile. 8-27-2002. U.S. EPA.

Ref Type: Report

Ref ID: 416

Keywords: Blue Mountain/Cinder Bank/History/OU 2/Palmerton/Palmerton Zinc Pile Superfund Site/Public/Superfund/Water/Zinc/Lehigh Gap/Lehigh Gap Nature Center/Palmerton Zinc/Palmerton Zinc Pile/Superfund Site/Contamination

Notes: Lehigh Gap Nature Center Computer

"This Explanation of Significant Differences ("ESD") presents the details of a change to the

remedy at Operable Unit 2 ("OU 2"), referred to as the Cinder Bank, of the Palmerton Zinc Pile Superfund Site ("Site")." The report includes information on the site history and contamination, reasons for issuing the ESD, a description of significant differences, support agency comments, statutory determinations, and public participation.

U.S.EPA. Blue Mountain Test Plot Plan for the 2003 Growing Season. 1-13. 2-25-2003. U.S. EPA.

Ref Type: Report

Ref ID: 441

Keywords: Blue Mountain/OU 1/Palmerton/Palmerton Zinc Pile Superfund

Site/Superfund/Wildlife/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund Site

Notes: LGNC Computer

Frank & West Environmental Engineers, Inc. (FWI), on behalf of Viacom International Inc. and TCI Pacific Communications, Inc. (collectively "Viacom"), has prepared this Blue Mountain Pilot 2003 Test Plot Plan (Plan) for the Palmerton Zinc Pile Superfund Site, Operable Unit 1 - Blue Mountain. This Plan details the methodologies planned for remediating, by revegetation, a portion of Blue Mountain, which is owned by the Wildlife Information Center (WIC).

---. Current Site Information. U.S. EPA, 2004.

Ref ID: 425

Keywords: General Information/Palmerton/Palmerton Zinc Pile Superfund

Site/Superfund/EPA/Palmerton Zinc/Palmerton Zinc Site/Zinc

Notes: LGNC Computer

An EPA web site, last updated in January of 2004, that provides information on the Palmerton Zinc Site.

U.S.EPA. Technology News and Trends. Technology News and Trends [26], 1-6. 2006.

Ref Type: Journal (Full)

Ref ID: 465

Keywords: EPA/Ground Water/Groundwater/heavy metals/Lehigh Gap/Lehigh Gap Wildlife

Refuge/Reclamation/Soil/Wildlife/Remediation

Notes: LGNC Computer

A U.S. EPA "newsletter about soil, sediment, and ground-water characterization and remediation technologies...This issue of Technology News and Trends highlights the use of soil amendments in remediation, revitalization, and reuse of disturbed land in diverse industrial, rural, and urban settings. Using various waste products to reclaim previously unusable or devalued land, these soil-amendment applications illustrate that industrial residuals can provide a cost-effective means for in-situ remediation. Such success stories reflect the Agency's growing efforts to identify innovative technology solutions for remediation and revitalization, to remove obstacles impeding redevelopment, and to develop measures for evaluating the various stages of ecological damage and repair." The Lehigh Gap Wildlife Refuge and the remediation project are mentioned in this issue.

---. Land Prservation and Restoration.U.S. EPA, 2006.

Ref ID: 471

Keywords: Conservation/Reclamation/Superfund/EPA/Superfund law

Notes: Internet: [http://www.epa.gov/ocfo/plan/2006/goal\\_3.pdf](http://www.epa.gov/ocfo/plan/2006/goal_3.pdf)

A U.S. EPA document which provides information on preserving land, restoring land, and enhancing science and research. The document also discusses Superfund Law.

---. EPA Abandoned Mine Lands Innovative Technology Case Study.U.S. EPA, 2007.

Ref ID: 380

Keywords: Blue Mountain/Cinder Bank/Erosion/heavy metals/Palmerton/Palmerton Zinc Pile Superfund Site/Soil/Superfund/Superfund Site/Water/Zinc

Abstract: "The Palmerton Zinc Pile Superfund Site is a former primary zinc smelter that operated from the late 1800s to 1980. Previous activities at the site created a more than 2,000-acre defoliated area on the adjacent Blue Mountain, a cinder bank composed of 33 million tons of material containing leachable metals, and additional defoliation along Stoney Ridge. As a result, there is heavy metal contamination in the surface soil, ground water, and stream sediments. In 1991, the responsible parties began applying biosolids to accelerate revegetation of the area.

Through mid-2006, almost 1,300 acres of Blue Mountain, 220 acres of the cinder bank, and 40 acres of Stoney Ridge have been revegetated. Additional revegetation of Blue Mountain and Stoney Ridge will continue in the remainder of 2006 and in 2007. Revegetation has stabilized the treated area, reduced soil erosion, and improved water quality (i.e., decreased soluble metals contaminant concentration) associated with runoff from the site."

Notes: Internet: [http://costperformance.org/pdf/20070522\\_396.pdf](http://costperformance.org/pdf/20070522_396.pdf)

U.S.EPA. Palmerton Zinc OU3 Enforcement Removal Administrative Record File Volume V. 2009. U.S. EPA.

Ref Type: Catalog

Ref ID: 391

Keywords: Administrative Record File/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/EPA/Administrative Order

Notes: Palmerton Library, Book Case 3, Shelf 4

This binder is an Administrative Record File for Operable Unit 3, meaning that it "is a collection of key documents that EPA considered and relied on in forming the basis for the selection of the remedy for a Superfund response action." Included in this Administrative Record File are enforcement documents which "contain information relevant to the response action. Such documents can be administrative orders, consent decrees, and correspondence with PRP."

---. Superfund Site Progress Profile- Palmerton Zinc Pile.U.S. EPA, 2009.

Ref ID: 376

Keywords: Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/Superfund Site/Contamination

Notes: Internet: <http://cfpub.epa.gov/supercpad/cursites/csitinfo.cfm?id=0300624>

This web site provides information on the U.S. EPA's cleanup progress at this Superfund site. This information includes site location, contamination, cleanup progress summary, and cleanup impact summary.

U.S.EPA. Palmerton Zinc OU3 Enforcement Removal Administrative Record File Volume IV. 2009.

Ref Type: Report

Ref ID: 40

Keywords: Administrative Record File/OU 3/Palmerton Zinc Pile Superfund

Site/Palmerton/EPA/Palmerton Zinc/Palmerton Zinc Site/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 2

Binder

A U.S. EPA binder that includes the Palmerton Zinc Site Field Trip Final Report which "documents field sampling activities, and presents analytical results and field observations for the environmental sampling effort...report does not include the health study results and does not correlate environmental results with biological sample results." Binder also includes statistical analyses of the CDM dataset for the Palmerton site from the U.S. EPA.

---. Superfund Redevelopment.2009.

Ref ID: 378

Keywords: Hazardous Waste/Public Health/Superfund/Superfund Site/Human Health

Notes: Internet: <http://epa.gov/superfund/programs/recycle/index.html>

This internet article provides information on the U.S. EPA's Superfund redevelopment which "helps communities return some of the nation's worst hazardous waste sites to safe and productive uses. In addition to cleaning up these Superfund sites and making them protective of human health and the environment, the Agency is working with communities and other partners in considering future use opportunities and integrating appropriate reuse options into the cleanup process. The Agency is also working with communities at sites that have already been cleaned up to ensure long-term stewardship of site remedies and to promote reuse."

U.S.EPA. Record of Decision Palmerton Zinc Pile Superfund Site Operable Unit #3, Community Soils.

2009. U.S. EPA.

Ref Type: Report

Ref ID: 68

Keywords: Interior Dust/OU 3/Palmerton/Palmerton Zinc Pile Superfund Site/Record of Decision/Soil/Lead/Arsenic

Notes: Palmerton Library, Book Case 2, Shelf 5

This report describes the Selected Remedy and Contingent Remedy for Operable Unit #3, both of which "address the lead and arsenic contaminated exterior soil source and address the tracked in exterior soil in interior dust."

---. EPA Strategic Plan. U.S. EPA, 2009.

Ref ID: 472

Keywords: Environmental Health/Palmerton Zinc Pile Superfund Site/Public Health/Reclamation/EPA/Human Health/Public

Notes: Internet: <http://www.epa.gov/ocfo/plan/plan.htm>

This EPA web site provides information on developing the 2009-2014 national Strategic Plan which "identifies the measurable environmental and human health outcomes the public can expect over the next five years and describes how" the EPA can achieve those goals. This web site also provides links to different PDF Files and links regarding the strategic plan from 2009-2014 and the strategic plan from 2006-2011.

---. Using Phytoremediation to Clean Up Sites. U.S. EPA, 2009.

Ref ID: 474

Keywords: Ground Water/Phytoremediation/Reclamation/Soil/Surface Water/Vegetation/Water/Plants/Contamination/Remediation

Notes: Internet: <http://www.epa.gov/superfund/accomp/news/phyto.htm>

"Phytoremediation is the direct use of green plants and their associated microorganisms to stabilize or reduce contamination in soils, sludges, sediments, surface water, or ground water. First tested actively at waste sites in the early 1990s, phytoremediation has been tested at more than 200 sites nationwide. Because it is a natural process, phytoremediation can be an effective remediation method at a variety of sites and on numerous contaminants. However, sites with low concentrations of contaminants over large cleanup areas and at shallow depths present

especially favorable conditions for phytoremediation. Plant species are selected for use based on factors such as ability to extract or degrade the contaminants of concern, adaptation to local climates, high biomass, depth root structure, compatibility with soils, growth rate, ease of planting and maintenance, and ability to take up large quantities of water through the roots." This web site also provides information on the Oregon Poplar Site, J-Field at Aberdeen Proving Ground in Maryland, and using native plants in phytoremediation.

---. Palmerton Zinc- Current Site Information. U.S. EPA, 2009.

Ref ID: 475

Keywords: General Information/OU 1/OU 2/OU 3/OU 4/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/Palmerton Superfund Site/Superfund Site

Notes: Internet: <http://www.epa.gov/reg3hscd/npl/PAD002395887.htm>

Web site provides various information on the Palmerton Superfund Site, including the current site status, a description of the site, threats and contaminants, and the cleanup progress for each of the operable units.

U.S.EPA. Hazardous Substances Source Identification Study, Palmerton Zinc CERCLA NPL Site, Carbon County, Pennsylvania. 2009.

Ref Type: Report

Ref ID: 314

Keywords: Cadmium/Carbon County/East Plant/Hazardous Substances/Lead/Palmerton/Palmerton Citizens/Palmerton Zinc Pile Superfund Site/Public Health/Zinc/Palmerton Zinc/Public

Notes: Palmerton Library, Book Case 1, Shelf 3

Volume 1

"A study has been conducted by EPA's National Enforcement Investigations Center to identify sources of hazardous substances at the Palmerton Zinc CERCLA site. The specific intention was to examine whether emissions from pre-1980 primary zinc smelting and contemporary East Plant electric arc furnace (EAF) dust recycling processes are significant contributors to the

environmental burden of hazardous substances. The chief substances of concern are zinc, cadmium, and lead."

Volume 2

Appendices

I. TEM/EDX/ED Particle Analyses, United States Public Health Service, Division of federal Occupational Health, National environmental Reference Laboratory, Fine Particle Division (June 28, 1993)

II. SEM/EDX Particle Analyses, Report No. 4064, Rocky Mountain Laboratories (April 15, 1993)

Volume 3

Appendices

III. SEM/EDX Particle Analyses, Report No. 4079, Rocky Mountain Laboratories (May 28, 1993)

IV. SEM/EDX Particle Analyses, Report No. 4080, Rocky Mountain Laboratories (July 26, 1993)

U.S.EPA Region III. Palmerton Zinc Site De Minimis Administrative Record File Volume IV. 4-9-0097.

U.S. EPA Region III.

Ref Type: Catalog

Ref ID: 34

Keywords: De Minimis Administrative Record File/Palmerton/Palmerton Zinc Pile Superfund

Site/EPA/Legal Information/Palmerton Zinc/Palmerton Zinc Site/Zinc/Public

Notes: Palmerton Library, Book Case 2, Shelf 1

Binder

A U.S. EPA binder filled with various legal information regarding the Palmerton Zinc Site including the jurisdiction, statement of facts, the determinations, the parties bound, access and notice, the designated project coordinators, the covenant not to sue, the reservation of rights, the due care, the civil penalties, the contribution protection, public comment, the attorney general's approval,



the effective date, the compliance with ARARs, the contribution to remedial performance, the exemption from statutory limits, the recommendation, and more.

U.S.EPA Region III. Palmerton Zinc Superfund Site Blue Mountain Project. 1987. Philadelphia, Pennsylvania, U.S. Environmental Protection Agency Region III.

Ref Type: Report

Ref ID: 21

Keywords: Blue Mountain/Environmental Health/Palmerton/Public Health/Remedial Investigation and Feasibility Study/Superfund/Superfund Remedial Investigation/Feasibility Study/Remedial Investigation/Feasibility Study/RI/FS/Pennsylvania/Contamination/Human Health/Remedial Action

Notes: Palmerton Library, Book Case 1, Shelf 6

Spiral-bounded booklet

"The purpose of this report is to summarize the results of a Superfund Remedial Investigation/Feasibility Study (RI/FS) that focused on the defoliated sections of Blue Mountain in Palmerton, Pennsylvania. This report will document the extent of contamination, the migration of contaminants, and the risks the site presents to human health and welfare and the environment. In addition, the report will identify and evaluate remedial action alternatives for the defoliated sections of Blue Mountain."

U.S.EPA Region III. Palmerton Zinc Pile- OU1 Administrative Record File Volume 1. 1989. U.S. EPA Region III.

Ref Type: Report

Ref ID: 29

Keywords: Administrative Record File/OU 1/Palmerton Zinc Pile Superfund Site/Palmerton/EPA/Palmerton Zinc/Zinc/OU

Notes: Palmerton Library, Book Case 2, Shelf 1

Binder

A U.S. EPA binder that contains data, letters, reports, and other documents on the Palmerton

Zinc OU 1 Site, including information regarding site identification, remedial enforcement planning, remedial response planning, community involvement, and site specific guidance documents.

U.S.EPA Region III. Palmerton Zinc Pile- OU2 Administrative Record File- Volume 1. 1989. U.S. EPA Region III.

Ref Type: Catalog

Ref ID: 26

Keywords: Administrative Record File/Hazardous Waste/OU 2/Palmerton/Palmerton Zinc Pile Superfund Site/EPA/Palmerton Zinc/Zinc/OU

Notes: Palmerton Library, Book Case 2, Shelf 1

Binder

A U.S. EPA binder that contains data, letters, reports, and other documents on the Palmerton Zinc OU 2 Site, including information regarding site identification and identification of hazardous waste, remedial enforcement planning, and remedial response planning.

U.S.EPA Region III. Palmerton Zinc Site De Minimis Administrative Record File Volume II. 2-3-1994.

U.S. EPA Region III.

Ref Type: Catalog

Ref ID: 31

Keywords: De Minimis Administrative Record File/Palmerton Zinc Pile Superfund Site/Public Health/Palmerton/EPA/Legal Information/Palmerton Zinc/Palmerton Zinc Site/Zinc/Public

Notes: Palmerton Library, Book Case 2, Shelf 1

Binder

A U.S. EPA binder that includes data, letters, reports, and other various legal information related to the Palmerton Zinc Site such as background information on the site, quantities and types of substances present on the site, the site's status on the national priorities list, the roles of state and local authorities, the threats to public health or welfare and the environment, a determination of the degree of hazards, proposed actions and estimated costs to help solve the problem, how these proposed actions will be enforced, and a final recommendation.

U.S.EPA Region III. Palmerton Zinc Site De Minimis Administrative Record File Volume III. 8-16-1996.

U.S. EPA Region III.

Ref Type: Catalog

Ref ID: 32

Keywords: De Minimis Administrative Record File/Palmerton Zinc Pile Superfund

Site/Palmerton/EPA/Palmerton Zinc/Palmerton Zinc Site/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 1

Binder

A U.S. EPA binder that includes data, letters, and reports regarding the legal matters of the Palmerton Zinc Site.

U.S.Fish and Wildlife Service. Palmerton Zinc Pile Damage Assessment.U.S. Fish and Wildlife Service, 2009.

Ref ID: 476

Keywords: Carbon County/General Information/Palmerton/Palmerton Zinc Pile Superfund

Site/Reclamation/Superfund/Damage Assessment/Restoration/Palmerton Zinc/Zinc/Palmerton Superfund Site/Superfund Site

Notes: Internet: <http://www.fws.gov/contaminants/restorationplans/palmerton/palmerton.cfm>

"This site has been developed to provide updates on the ongoing natural resource damage assessment and restoration efforts for the Palmerton zinc smelting plant, Borough of Palmerton, Carbon County, Pennsylvania." The site also provides numerous reports and web site links regarding the Palmerton Superfund Site.

University of Cincinnati. Preliminary Multi-Metal Analysis. 2009. University of Cincinnati.

Ref Type: Catalog

Ref ID: 327

Keywords: Heavy Metals/Palmerton/heavy metals/Metals

Notes: Palmerton Library, Book Case 1, Shelf 4

Spiral-bound notebook

Graphs showing the relationships of heavy metals.

Urban, M. C. "The town that sold its sunset." River Teeth: A Journal of Nonfiction Narrative (2004): 90-102.

Ref ID: 504

Keywords: History/Palmerton/Palmerton Zinc Pile Superfund Site

Urban, Mark. Under Barren Hills of Gray. 3-28-2000.

Ref Type: Report

Ref ID: 243

Keywords: Appalachian Mountains/General Information/History/Lehigh Gap/Palmerton/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box

This paper provides information on the history of Palmerton, the Lehigh Gap, and the Appalachians before, during, and after the devastation.

Urban, Mark Christopher. Palmerton, PA: A Study in Superfund Deficiencies. 2009.

Ref Type: Report

Ref ID: 242

Keywords: General Information/Palmerton/Palmerton Zinc Pile Superfund Site/Superfund/Lehigh Gap/Lehigh Gap Nature Center/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund Site/Superfund law

Notes: Lehigh Gap Nature Center- Papers from box

A student's paper that uses the Palmerton Zinc Pile Superfund Site as its main case study to detail Superfund law and, more specifically, its positive and negative contributions as an environmental regulation.

Various Authors. Symposium on Middle and Upper Devonian Stratigraphy of Pennsylvania and Adjacent States. Ed. Vincent C. Shepps. Harrisburg, Pennsylvania: Pennsylvania Geological Survey, 1963.

Ref ID: 177

Keywords: Geology/Lehigh Gap/Pennsylvania

Notes: Moravian College's Reeves Library

Book provides brief information on the geology of the Lehigh Gap in Pennsylvania.

Various Authors. Palmerton Zinc Pile OU2 Administrative Record File IIID. 2-2-1976.

Ref Type: Catalog

Ref ID: 51

Keywords: Administrative Record File/OU 2/Palmerton Zinc Pile Superfund

Site/Palmerton/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund/Superfund Site/Pennsylvania

Notes: Palmerton Library, Book Case 2, Shelf 3

Binder includes reports, letters, and data related to Operable Unit 2 on the Palmerton Zinc Pile Superfund Site in Palmerton, Pennsylvania.

Various Authors. Palmerton Zinc Pile OU1 Administrative Record File Volume III. 1984.

Ref Type: Catalog

Ref ID: 52

Keywords: OU 1/Palmerton Zinc Pile Superfund Site/Remedial Investigation and Feasibility

Study/Palmerton/Remedial Investigation/Feasibility Study/Palmerton Zinc/Palmerton Zinc

Site/Zinc/Contamination/Feasibility Study/EPA

Notes: Palmerton Library, Book Case 2, Shelf 3

Binder includes a Work Plan for the Remedial Investigation/Feasibility Study of Alternatives for the Palmerton Zinc Site which "specifies actions proposed to complete the Remedial Investigation of the nature and extent of contamination and the Feasibility Study of Remedial Alternatives at the Palmerton Zinc Site as described in the EPA Work Assignment No. 63-3L26 dated January 1984." Binder also includes letters and data regarding Operable Unit 1 of the Palmerton Zinc Site.

Various Authors. Palmerton Zinc Pile OU2 Administrative Record File Volume IIIA. 1987.

Ref Type: Catalog

Ref ID: 147

Keywords: Administrative Record File/Media/OU 2/Palmerton Zinc Pile Superfund Site/Remedial Investigation/Feasibility Study/Palmerton/Palmerton Zinc/Palmerton Zinc Site/Zinc/Remedial Investigation and Feasibility Study/Feasibility Study

Notes: Palmerton Library, Book Case 3, Shelf 1

Binder contains various documents related to Operable Unit 2 of the Palmerton Zinc Site, including a Remedial Investigation and Feasibility Study, newspaper articles, data, and analysis.

Various Authors. Interim Action. 1-27-1988.

Ref Type: Report

Ref ID: 338

Keywords: Community Soils/OU 3/Palmerton/Palmerton Environmental Task Force/Public Health/Soil

Notes: Palmerton Library, Book Case 1, Shelf 4

A binder filled with the Palmerton Environmental Task Force and U.S. EPA's documents and reports regarding the Post Interim Action Data for the Palmerton Community Soils Operable Unit.

Various Authors. Palmerton Zinc Pile OU2 Administrative Record File III E. 1992.

Ref Type: Report

Ref ID: 41

Keywords: Administrative Record File/OU 2/Palmerton Zinc Pile Superfund Site/Palmerton/Cinder Bank/Palmerton Zinc/Zinc

Notes: Palmerton Library, Book Case 2, Shelf 2

A binder containing a wide array of information pertaining to the Cinder Bank or Operable Unit 2- Palmerton Zinc NPL Site. Includes reports such as the Site Health and Safety Plan, the Final Work Plan for the Cinder Bank, and various letters, graphs, and tables displaying data related to the Cinder Bank.

Various Authors. Studies and Superfund Information- Butte-Silver Bow County, Montana and Leadville- Lake County, Colorado, Granite City, Illinois. 1993.

Ref Type: Catalog

Ref ID: 331

Keywords: Superfund/Palmerton/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 4

A binder containing various reports and information regarding several Superfund Sites in Montana, Colorado, and Illinois.

Various Authors. Newspaper Articles, 1990-1994. 1994.

Ref Type: Catalog

Ref ID: 350

Keywords: heavy metals/Media/Palmerton/Zinc/Metals/Times News/The Morning Call

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder contains hundreds of newspaper articles regarding the zinc smelting, the town of Palmerton, heavy metals, ecological devastation, and other topics. Articles come from different sources, including Ecologia Newsletter, The Times News, The Morning Call, The Wall Street Journal, etc.

Various Authors. Risk Assessment- Public Comments 1 of 2. 1994.

Ref Type: Catalog

Ref ID: 328

Keywords: Lead/Palmerton/Palmerton Citizens/Public Comments/Public Health/Soil/Public/Risk Assessment

Notes: Palmerton Library, Book Case 1, Shelf 4

Binder

Public comments and reports on the risk assessment procedures for lead in homes and soil in Palmerton.

Various Authors. Palmerton Exposure Study- Multi-metal Analyses of Residential Samples. 12-4-1995.

Ref Type: Catalog

Ref ID: 8

Keywords: heavy metals/Interior Dust/Metal analysis/Paint/Palmerton/Public Health/Soil

Notes: Palmerton Library, Book Case 1, Shelf 5

Booklet

A record of data from metal analyses in individual residences in Palmerton as well as Palmerton's soil, interior dust, and paint.

Various Authors. Uranium Ore Storage at the East Plant- Black Binder. 1995.

Ref Type: Catalog

Ref ID: 344

Keywords: Uranium/East Plant/Palmerton/Palmerton Environmental Task Force

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

Various correspondences and documents from the Palmerton Environmental Task Force, Department of Energy, Atomic Energy Commission, etc. in regards to the uranium storage at the East Plant.

Various Authors. Palmerton Zinc OU3 Site Administrative Record File Volume IIIB. 1995.

Ref Type: Catalog

Ref ID: 54

Keywords: Administrative Record File/Heavy Metal Analysis/Housedust/Lead-Based Paint

Hazards/OU 3/Palmerton/heavy metals/Metals/Paint

Notes: Palmerton Library, Book Case 2, Shelf 3

Binder includes a Laboratory Report from the Rocky Mountain Laboratories, Inc. regarding the analysis of heavy metals in house dust. Binder also includes a U.S. Department of Housing and Urban Development report titled "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing."

Various Authors. Binder of Newspaper Articles 1995-1998. 1998.

Ref Type: Catalog

Ref ID: 346



Keywords: heavy metals/Media/Palmerton/Pollution/Soil/The New York Times/The Morning Call/Times News/Metals

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

Hundreds of newspaper articles from The New York Times, The Morning Call, Times News, and other newspapers regarding the town of Palmerton, contaminated soil, pollution, heavy metals, etc. Newspaper articles are divided in the binder by year.

Various Authors. Binder of Newspaper Articles 1995-1998. 1998.

Ref Type: Catalog

Ref ID: 7

Keywords: Media/Palmerton/Public Health/The New York Times/The Morning Call/Times News/Soil/Pollution/heavy metals/Metals

Notes: Palmerton Library, Book Case 1, Shelf 5

Binder

Hundreds of articles from The New York Times, The Morning Call, Times News, and other newspapers regarding the town of Palmerton, contaminated soil, pollution, heavy metals, etc. Newspaper articles are divided in the binder by year.

Various Authors. Operable Unit #3- Proposed Remedial Action Plan- Comments. 2000.

Ref Type: Catalog

Ref ID: 323

Keywords: OU 3/Palmerton/Palmerton Environmental Task Force/Palmerton Zinc Pile Superfund Site/Public Health/Remedial Action/Palmerton Zinc/Palmerton Zinc Pile/Zinc/Superfund/Superfund Site/Zinc Corporation of America/Public

Notes: Palmerton Library, Book Case 1, Shelf 3

Binder

Includes information regarding the U.S. Environmental Protection Agency's proposed Remedial Action Plan for Operable Unit #3 at the Palmerton Zinc Pile Superfund Site including comments

from the Zinc Corporation of America, the Palmerton Environmental Task Force, GeoServices, McTish, Kunkel & Associates, the Pro Palmerton Coalition, the Palmerton Area Chamber of Commerce, and the public.

Various Authors. EPA Native Plant. 2005.

Ref Type: Catalog

Ref ID: 112

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Vegetation/Lehigh Gap/Wildlife

Notes: Lehigh Gap Nature Center Computer

Various communications regarding the revegetation plan at the Lehigh Gap Wildlife Refuge.

Various Authors. 2007-2010 Spring Data. 2007.

Ref Type: Catalog

Ref ID: 109

Keywords: Lehigh Gap Nature Center/Map/Vegetation/Lehigh Gap

Notes: Lehigh Gap Nature Center Computer

File includes various documentation regarding the spring and seep data including field data, field notes, photos, and maps.

Various Authors. Oak Plantings. 2007.

Ref Type: Catalog

Ref ID: 113

Keywords: Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife

Refuge/Map/Vegetation/Wildlife

Notes: Lehigh Gap Nature Center Computer

Files include data, maps, and personal communications documenting the experimental oak seed and acorn plantings at the Lehigh Gap Wildlife Refuge.

Various Authors. Comments on the Palmerton Zinc Pile (OU#3) Risk Assessment Responsiveness Summary and Technical Memorandum for Palmerton. 2009.

Ref Type: Catalog

Ref ID: 343

Keywords: heavy metals/Palmerton/Palmerton Environmental Task Force/Palmerton Zinc Pile Superfund Site/Zinc/Zinc Corporation of America

Notes: Palmerton Library, Book Case 1, Shelf 5

Includes comments from the Palmerton Environmental Task Force, Viacom, and the Zinc Corporation of America regarding the Responsiveness Summary and Technical Memorandum.

Various Authors. Bio-Availability of Cadmium and Lead and Prophylactic Effects of Zinc and Calcium in Reducing Same- Supporting Studies. 2009.

Ref Type: Catalog

Ref ID: 341

Keywords: Cadmium/Calcium/heavy metals/Lead/Mining/Paint/Public Health/Soil/Zinc/Palmerton/Bio-availability/Bioavailability/Contamination/Copper

Notes: Palmerton Library, Book Case 1, Shelf 5

This binder includes 15 different studies regarding the bio-availability of cadmium and lead and prophylactic effects of zinc and calcium.

Articles include:

- ~ Toxicological Profile for Lead
- ~ Toxicological Profile for Cadmium
- ~ Statement of Policy and Guidance for Petitions Sec. 313
- ~ Current Issues in Determining Acceptable Lead Concentrations in Soils
- ~ Evaluation of Two Methods for Determining Cleanup Levels for Mining Derived Lead in Soil (Draft)
- ~ Assessing the Contribution from Lead in Mining Wastes to Blood Lead
- ~ The Bioavailability of Lead in Mining Wastes: Physical/Chemical Considerations (Draft)
- ~ An Experimental Human Model of Metal Fume Fever
- ~ Solubility and Potential Toxicity of Lead in Urban Community
- ~ Soil Contamination from Lead in Paint Chips

- ~ New Information on Lead in Dirt and Dust as Related to the Childhood Lead Problem
- ~ Diets and Lead Blood Levels of Children Who Practice PICA
- ~ Inhibition of Delta-Aminolevulinic Acid Dehydratase in Human Red Blood Cells by Lead and Activation by Zinc or Cysteine
- ~ Reduction of Blood Lead Levels in Battery Workers by Zinc and Vitamin C
- ~ Blood Lead Levels in Psychiatric Outpatients Reduced by Zinc and Vitamin C
- ~ Lead Bioavailability to Humans from Diets Containing Constant Amounts of Lead: Impact of Supplemental Copper, Zinc, and Iron
- ~ Influence of Dietary Zinc on Lead Toxicity During Gestation and Lactation in the Female Rat
- ~ Effects of Zinc Deficiency on Lead Toxicity in Rats
- ~ Influence of Dietary Zinc on Lead Toxicity in the Rat
- ~ Statement of Paul D. Bergstrom
- ~ Statement by Dr. Robert L. Bornschein
- ~ Lead, Zinc, and Erythrocyte O-Aminolevulinic Acid Dehydratase: Relationships in Lead Toxicity
- ~ Dose Effect Relationships for Lead in Young Children: Evidence in Children for Interactions Among Lead, Zinc, and Iron
- ~ The Cincinnati Soil-lead Abatement Demonstration Project
- ~ Nutritional Factors in Lead Poisoning
- ~ Report on the Research of Dr. Herbert Needleman

Various Authors. Food Web Theory. 2009.

Ref Type: Catalog

Ref ID: 352

Keywords: Ecology/Food Web/biodiversity/Lehigh Gap/Lehigh Gap Nature Center/Food Web/Biodiversity/Food webs

Notes: Lehigh Gap Nature Center Computer

Series of articles regarding the food web and biodiversity. Articles include:

- ~ Food Web Ecology: Playing Jenga and Beyond
- ~ Asymmetry and Stability

- ~ Stability in Real Food Webs: Weak Links in Long Loops
- ~ Reconciling Complexity with Stability in Naturally Assembling Food Webs
- ~ From Elton to Mathematics and Back Again
- ~ Structural Asymmetry and the Stability of Diverse Food Webs

Various Authors. Zinc Interaction Articles received from Rufus Chaney. 2009.

Ref Type: Catalog

Ref ID: 330

Keywords: Bioavailability/Cadmium/Copper/heavy metals/Lead/Palmerton/Palmerton Zinc Pile Superfund Site/Public Health/Soil/Superfund/Water/Zinc/Metal toxicity/Palmerton Superfund Site/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 4

This binder contains the following papers on heavy metal toxicity, bioavailability, and effects on metabolism, not specific to the Palmerton Superfund site.

- ~ Cadmium Metabolism- A Review of Aspects Pertinent to Evaluation Dietary Cadmium Intake By Man
- ~ Nutritional Consideration in Designing Animal Models of Metal Toxicity in Man
- ~ Cadmium Bioavailability
- ~ Cadmium Toxicity Decreased by Dietary Ascorbic Acid Supplements
- ~ Effects of Nutritional Factors on Metabolism of Dietary Cadmium at Levels Similar to Those of Man
- ~ Indices for Assessing Cadmium Bioavailability from Human Foods
- ~ Animal Models for Assessing Bioavailability of Essential and Toxic Elements
- ~ Effects of Vitamin C and Iron On Cadmium Metabolism
- ~ Effects of Zinc, Iron, and Copper Deficiencies on Cadmium in Tissues of Japanese Quail
- ~ Retention of Dietary Cadmium and the Ameliorative Effect of Zinc, Copper, and Manganese in Japanese Quail
- ~ Decreased Long-Term Retention of Cd in Japanese Quail Produced by a Combined

## Supplement of Zinc, Copper, and Manganese

- ~ Effects of Dietary Zinc, Manganese, and Copper on Tissue Accumulation of Cadmium by Japan Quail
- ~ Interactions of Plant Zinc and Plant Species on the Bioavailability of Plant Cadmium to Japanese Quail Fed Lettuce and Spinach
- ~ Bioavailability of Cadmium from Romaine Lettuce in Quail
- ~ Cadmium-induced fetal growth retardation: Protective effect of excess dietary zinc
- ~ Availability of Cadmium from Foods and Water
- ~ Cadmium Absorption and Tissue Distribution in Rats Provided Low Concentrations of Cadmium in Food or Drinking Water
- ~ Investigations of heavy metal content in soils and garden products from private gardens in Stolberg and for lead and cadmium content in small gardens in Stolberg
- ~ Increased Dietary Cadmium Absorption in Mice and Human Subjects with Iron Deficiency
- ~ Retention of Cadmium in Organs of the Rat After a Single Dose Labeled Cadmium-3-Phytate
- ~ Reduced Cadmium Body Burden in Cadmium-Exposed Calves Fed Supplemental Zinc
- ~ Effect on New Zealand Adults Consuming Large Amounts of Cadmium in Oysters
- ~ The effect of wheat bran on the absorption and accumulation of cadmium in rats
- ~ Absorption and Organ Content of Cadmium from the Kernels of Confectionery Sunflowers Fed to Male Rats
- ~ Comparison of the Digestion of Oyster Tissue Containing Intrinsically or Extrinsically Labeled Cadmium
- ~ Iron Metabolism of Mice Fed Low Levels of Physiologically Bound Cadmium in Oyster or Cadmium Chloride
- ~ Cadmium Levels in Selected Organs of Rats Fed Three Dietary Forms of Cadmium
- ~ Effect of Dietary Zinc Deficiency on the Accumulation of Cadmium and Metallothionein in Selected Tissues of the Rat
- ~ The effects of whole wheat, wheat bran and zinc in the diet on the absorption and accumulation of cadmium in rats

- ~ The influence of milling on the nutritive value of flour from cereal grains
- ~ Metabolism of Orally Ingested Cadmium in Humans
- ~ Measurement of Dietary Cadmium Absorption in Humans
- ~ The Uptake by Man of Cadmium Ingested in Crab Meat
- ~ Assessment of Cadmium, Lead and Vanadium Status of Large Animals as Related to the Human Food Chain
- ~ Availability of Cadmium from Lettuce Leaves and Cadmium Sulfate to Rats
- ~ Cadmium Exposure and Health Effects Among Residents in an Irrigation Area with Ore Dressing Wastewater
- ~ Absorption of Radiocadmium and Radioselenium by Rats Fed Intrinsically and Extrinsically Labeled Lettuce Leaves
- ~ Cadmium Retention in Mice Fed Radiolabeled Rat Liver, Eastern and Pacific Oysters, and Hardshell and Softshell Clams
- ~ The relation of the accumulation of cadmium in human placenta to the intake of high-fibre grains and maternal iron status
- ~ Cadmium Accumulation from Diets With and Without Wheat Bran in Rats with Different Iron Status

Various Authors. Palmerton Zinc Pile- OU1 Site-Specific Guidance Documents. 2009.

Ref Type: Catalog

Ref ID: 25

Keywords: heavy metals/OU 1/Palmerton Zinc Pile Superfund Site/Public

Health/Palmerton/Palmerton Zinc/Palmerton Zinc Superfund Site/Zinc/Superfund/Superfund Site/Contamination/Soil/Vegetation/Zinc

smelter/Cadmium/Copper/Lead/Lichens/Lichen/Pollution/Pollutants/Metals/Reclamation

Notes: Palmerton Library, Book Case 2, Shelf 1

A binder that includes a dozen various articles related to Operable Unit 1 of the Palmerton Zinc Superfund Site. Articles include:

- ~ Contamination of Soil and Vegetation Near a Zinc Smelter by Zinc, Cadmium, Copper, and

## Lead

- ~ Heavy Metal Levels of Ottawa and Rideau River Sediments
- ~ Influence of Effluents from a Zinc Factory on Lichens
- ~ Effects of Zinc Smelter Emissions on Forest Soil
- ~ Effects of Zinc Smelter Emissions and Fire on a Chestnut-Oak Woodland
- ~ A Nationwide Survey of Heavy Metal Absorption in Children Living Near Primary Copper, Lead, and Zinc Smelters
- ~ Environmental Zinc and Cadmium Pollution Associated with Generalized Osteochondrosis, Osteoporosis, and Nephrocalcinosis in Horses
- ~ Lung Cancer in Relation to Environmental Pollutants Emitted from Industrial Sources
- ~ U.S. EPA's Environmental Regulations and Technology- Use and Disposal of Municipal Wastewater Sludge
- ~ Heavy Metals in Cottontail Rabbits on Mined Lands Treated with Sewage Sludge
- ~ Interim Guidelines for Sewage Sludge Use For Land Reclamation
- ~ Heavy Metal Exposure in Populations Living around Zinc and Copper Smelters

Various Authors. Uranium Ore Storage. 2009.

Ref Type: Catalog

Ref ID: 36

Keywords: Palmerton/Uranium/Pennsylvania

Notes: Palmerton Library, Book Case 2, Shelf 1

A large brown folder that includes information regarding uranium ore storage in Palmerton, Pennsylvania. Documents include:

- ~ Results of the Radiological Survey at the Former Ore Storage Site, Palmerton Pennsylvania
- ~ Department of Energy Letter Correspondences
- ~ Preliminary Radiation Dose Assessment for the Palmerton Ore Storage Site, Palmerton, Pennsylvania



Various Authors. Palmerton Zinc Pile OU1 Administrative Record File Volume II. 2009.

Ref Type: Catalog

Ref ID: 45

Keywords: Gulf and Western/Horsehead Industries, Inc./New Jersey Zinc, Inc./OU  
1/Palmerton/Zinc/EPA/Horsehead Industries

Notes: Palmerton Library, Book Case 2, Shelf 2

Binder includes numerous letters from New Jersey Zinc, Inc., U.S. EPA, Horsehead Industries,  
and Gulf & Western Industries, Inc. regarding Operable Unit 1.

Various Authors. Palmerton Zinc Pile OU2 Administrative Record File IIIF. 2009.

Ref Type: Catalog

Ref ID: 55

Keywords: Administrative Record File/Cinder Bank/OU 2/Palmerton/Map

Notes: Palmerton Library, Book Case 2, Shelf 3

Binder includes various information pertaining to Operable Unit 2, including maps, letters, and the  
following documents:

~ Remedial Planning Response

~ Quality Assurance Project Plan for Additional Studies for Remedial Action at Cinder Bank

Operable Unit

~ Palmerton Study Consent Order Site Operations Plan

~ Wright Lab Services, Inc. Quality Assurance Quality Control Plan

Various Authors. Bio-Availability of Cadmium and Lead and Prophylactic Effects of Zinc and Calcium in  
Reducing Same- Supporting Studies. 2009.

Ref Type: Catalog

Ref ID: 9

Keywords: Bio-availability/Cadmium/heavy metals/Lead/Paint/Public  
Health/Soil/Zinc/Palmerton/Bioavailability/Calcium/Mining/Contamination/Copper

Notes: Palmerton Library, Book Case 1, Shelf 5

This binder includes 15 different studies regarding the bio-availability of cadmium and lead and prophylactic effects of zinc and calcium. Articles include:

- ~ Toxicological Profile for Lead
- ~ Toxicological Profile for Cadmium
- ~ Statement of Policy and Guidance for Petitions Sec. 313
- ~ Current Issues in Determining Acceptable Lead Concentrations in Soils
- ~ Evaluation of Two Methods for Determining Cleanup Levels for Mining Derived Lead in Soil (Draft)
- ~ Assessing the Contribution from Lead in Mining Wastes to Blood Lead
- ~ The Bioavailability of Lead in Mining Wastes: Physical/Chemical Considerations (Draft)
- ~ An Experimental Human Model of Metal Fume Fever
- ~ Solubility and Potential Toxicity of Lead in Urban Community
- ~ Soil Contamination from Lead in Paint Chips
- ~ New Information on Lead in Dirt and Dust as Related to the Childhood Lead Problem
- ~ Diets and Lead Blood Levels of Children Who Practice PICA
- ~ Inhibition of Delta-Aminolevulinic Acid Dehydratase in Human Red Blood Cells by Lead and Activation by Zinc or Cysteine
- ~ Reduction of Blood Lead Levels in Battery Workers by Zinc and Vitamin C
- ~ Blood Lead Levels in Psychiatric Outpatients Reduced by Zinc and Vitamin C
- ~ Lead Bioavailability to Humans from Diets Containing Constant Amounts of Lead: Impact of Supplemental Copper, Zinc, and Iron
- ~ Influence of Dietary Zinc on Lead Toxicity During Gestation and Lactation in the Female Rat
- ~ Effects of Zinc Deficiency on Lead Toxicity in Rats
- ~ Influence of Dietary Zinc on Lead Toxicity in the Rat
- ~ Statement of Paul D. Bergstrom
- ~ Statement by Dr. Robert L. Borschein
- ~ Lead, Zinc, and Erythrocyte O-Aminolevulinic Acid Dehydratase: Relationships in Lead Toxicity
- ~ Dose Effect Relationships for Lead in Young Children: Evidence in Children for Interactions

Among Lead, Zinc, and Iron

~ The Cincinnati Soil-lead Abatement Demonstration Project

~ Nutritional Factors in Lead Poisoning

~ Report on the Research of Dr. Herbert Needleman

Various Authors. Palmerton Zinc Pile- OU2 Administrative Record File Volume II. 2009.

Ref Type: Catalog

Ref ID: 53

Keywords: Administrative Record File/OU 2/Palmerton Zinc Pile Superfund Site/Palmerton/Legal Information/Palmerton Zinc/Palmerton Zinc Site/Zinc/EPA/Horsehead Industries/The New Jersey Zinc Company/New Jersey Zinc Company

Notes: Palmerton Library, Book Case 2, Shelf 3

Binder includes legal information regarding Operable Unit 2 of the Palmerton Zinc Site.

Corporations involved include the U.S. EPA, Horsehead Industries, Inc., The New Jersey Zinc Company, and Gulf & Western Industries, Inc.

Vertrees, Thomas. "The Dangers of Testing for Lead in Paint Using only L-Shell X-Rays." No Journal Given (2009).

Ref ID: 437

Keywords: heavy metals/Lead/Paint/Public Health/Risk Assessment/Public/Public Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"The preferred method for testing for hazardous levels of lead in dry paint films is X-Ray Fluorescence because it is fast, economical and accurate, when used properly. Testing for lead in paint is a new and rapidly growing business, and because of this, many inspectors lack experience and knowledge about field sampling and testing with XRF, specifically its proper application for testing paint films."

Veterinary Medical Diagnostic Laboratory. Project Notebook for Systemic Availability of Lead to Young Swine From Subchronic Administration of Lead-Contaminated Soil (Phase II). 2009. University of Missouri- Columbia, Veterinary Medical Diagnostic Laboratory.

Ref Type: Catalog

Ref ID: 318

Keywords: Lead/Public Health/Soil/Superfund/Palmerton/Bioavailability/Superfund Site

Notes: Palmerton Library, Book Case 1, Shelf 3

Binder

"The subject study is intended to further the understanding of systemic bioavailability of lead to young swine as a possible model for young children. It is specifically directed toward improving our knowledge of the absorption of lead-contaminated soil from residential areas in several different mining-related Superfund sites in USEPA Region VIII." Report includes tables and figures depicting data,

Viacom International, Inc. and Blasland, Bouck and Lee Inc. Preliminary Human Health and Ecological Risk Evaluation and Data Summary Report- Warm Season Grass Remediation Area. 2004.

Ref Type: Report

Ref ID: 444

Keywords: Grasses/heavy metals/Public Health/Vegetation/Warm Season

Grasses/Remediation/Metals

Notes: LGNC Computer

A preliminary risk evaluation was conducted for the Warm Season Grass Remediation Area to support decisions regarding additional remedy. Based on data collected in 2004, the following can be concluded:

~ Vegetation is not bioconcentrating metals from any of the sampled test plots. Plant-to-soil bioaccumulation factors are generally less than 0.1, many are less than 0.01.

~ No elevated risks to human receptors are expected under any of the compost treatments.

~ No elevated risks to ecological receptors are expected under any of the compost treatments.

Report includes tables and figures which display the data.

Villafane, Armando Jr. Current State of Microflora Post Zinc Smelter Emissions Exposure. 2007.

Ref Type: Report

Ref ID: 361

Keywords: Cadmium/Copper/East Plant/heavy

metals/Lead/Microflora/Palmerton/Soil/Wildlife/Zinc/Zinc smelter/Fungi/Metals/Succession

Abstract:

An overall significant reduction in heavy metal concentration has been observed in the O<sub>2</sub>, A<sub>1</sub>, and A<sub>3</sub> soil horizons within 2 km of the east-plant zinc (Zn) smelter in Palmerton, Pa. Up to 129000 ppm of zinc, 1800 ppm of cadmium (Cd), 2150 ppm of copper (Cu) and 1900 ppm of lead (Pb) had been recovered in the O<sub>2</sub> horizon of the most affected site during a 1975 study which looked at the effects of zinc-smelter emissions on soil microflora (Jordan and Lechevaleir, 1975). Current metal concentrations in the O<sub>2</sub> horizon have decreased considerably there; with measurements plummeting down to 4348 ppm of Zn, 68 ppm of Cd, 177 ppm of Cu and 649 ppm of Pb.

While this is still considered higher than normal, microbial populations have demonstrated some ability to recover. When compared to the microbial population counts of 1975, total numbers in soil microflora (bacteria and fungi) populations have demonstrated notable increases, particularly in the O<sub>2</sub> horizon of the most affected sites (*S1 and S2*). Zinc tolerant bacteria belonging to the genus *Bacillus* proved to be the most dominant bacterium at S1 and S2. A strain of *Alcaligenes eutrophus*, a bacteria classified by its ability to demonstrate plasmid-bound resistance to Co<sup>2+</sup>, Ni<sup>2+</sup>, Zn<sup>2+</sup> and Cd<sup>2+</sup> ions (Mergeay et al, 1985), was also isolated from S1 and S2. Data suggests that the increase in soil microflora may be attributed in part to a decrease in the concentration of heavy metals, possibly as a result of inorganic leaching. However, isolation of metal resistant bacteria *A. eutrophus* and Zn tolerant *Bacillus* may be indicators of early stages in succession - soil formation.

Notes: LGNC Computer

A research paper submitted for Dr. Frank Kuserk at Moravain College.

Palmerton Zinc Pile Site Ground/Surface Water Operable Unit Palmerton, Pennsylvania- Locations of

Existing Wells in the East Plant. Map. Philadelphia, Pennsylvania: 2009.

Ref ID: 15

Keywords: East Plant/Groundwater/Map/OU 4/Palmerton/Palmerton Zinc Pile Site/Surface Water/Palmerton Zinc/Palmerton Zinc Pile/Zinc

Notes: Palmerton Library, Book Case 1, Shelf 6

A map of the existing wells in the East Plant of the Palmerton Zinc Pile Site.

Water Environment Federation. "Reclamation of Palmerton Zinc Superfund Site. Carbon County, Pennsylvania." Biosolids Success Stories (2000).

Ref ID: 248

Keywords: Carbon County/General Information/heavy metals/History/Lehigh Gap/Palmerton/Palmerton Zinc Superfund Site/Reclamation/Superfund Site/Zinc/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center- Papers from box and the internet (PDF file):

<http://www.biosolids.org/docs/source/CarbonPA.pdf>

Provides an explanation of the history of the Lehigh Gap and the devastation and reclamation processes. Article contains tables regarding heavy metal data and pictures of the Lehigh Gap.

Way, John H. "Appalachian Mountain Section of the Ridge and Valley Province." The Geology of Pennsylvania. Ed. Charles H.Schultz. Ed. Charles H.Schultz. Harrisburg, Pennsylvania: Pennsylvania Geological Survey, 1999. 353-61.

Ref ID: 171

Keywords: Geology/Lehigh Gap/Appalachian Mountains

Notes: Lehigh University, E.W. Fairchild-Martindale Library

Book about the physiography of the Appalachian Mountains. The Lehigh Gap is mentioned very briefly.

Wert, Kristen. Water Quality and Amphibian Species Abundance and Reproduction at Lehigh Gap Wildlife Refuge. 2009.

Ref Type: Report

Ref ID: 128

Keywords: Amphibians/Lehigh Gap Wildlife Refuge/Water Quality/Water/Zinc/Lehigh Gap/Wildlife/Map/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center Computer

The goal of this paper was to relate water quality, especially zinc concentration, to amphibian distribution in different habitat sites in the Lehigh Gap Wildlife Refuge. Paper includes graphs, tables, and maps which correspond with the data.

West, C. "Restoration at the Lehigh Gap." Wildlife Activist.49 (2004): 5-7.

Ref ID: 523

Keywords: Blue Mountain/Lehigh Gap/Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Reclamation/Wildlife Activist

Notes: Lehigh Gap Nature Center

An article about the ongoing re-vegetation process on Blue Mountain.

Wickland, Diane E. "Vegetation of Heavy Metal Contaminated Soils in North America." Heavy Metal Tolerance In Plants. Evolutionary Aspects. Ed. A. J Shaw. CRC Press, 1990. 39-52.

Ref ID: 545

Keywords: Palmerton/sandwort/Soil/Vegetation/Plants

Notes: Discusses vegetation that grows in the Palmerton area including *Arenaria* (sandwort).

Wildlands Conservancy. State of the Lehigh River Report. 2003. Emmaus, Pennsylvania, Wildlands Conservancy.

Ref Type: Report

Ref ID: 516

Keywords: Lehigh River/Water/Water Quality/Lehigh Gap/Lehigh Gap Nature Center

Notes: Lehigh Gap Nature Center

A report on the water quality of the Lehigh River.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [44]. 2002. Slatington, Pennsylvania, Wildlife Information Center, Inc.

Ref Type: Journal (Full)

Ref ID: 84

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Restoration/Field Guide/Ecology/Birds/Plants/Lichens/Lichen/Conservation

Notes: Lehigh Gap Nature Center

Featured in this issue of the Wildlife Information Center's newsletter are articles on the wildlife refuge land fund, endangered species restoration, news from the Kittatinny Raptor Corridor Project (including the winter bird survey, a feeder watch, and the bluebird project), wildlife issues and news (regarding the tundra swan, penguins, river otters, red-winged blackbird, and peregrine falcons), and a message from the President of the Nature Center. This issue also includes reviews of the following books: Raptors of the World; A Field Guide to Hawks of North America; Toucans, Barbets, and Honeyguides; Harriers of the World: Their Behaviour and Ecology; The Birds of Northern Melanesia: Speciation, Ecology, and Biogeography; Wild Bird Guides: Red-tailed Hawk; Sparrows of the United States and Canada: The Photographic Guide; A Guide to the Birds of Western Africa; The Birds of Heaven: Travels with Cranes; Extinct Birds; Birds of the Texas Hill Country; Wrens, Dippers, and Thrashers; The Origin and Evolution of Birds; Early Southwest Ornithologists, 1958-1900; The Nature of Penguins; Owls: The Silent Fliers; Hawks, Eagles, and Falcons of North America; Condors and Vultures; Shorebirds; Sea Otters; The Way of the Tiger; Mountain Gorillas: Three Decades of Research; The Nature of Lions: Social Cats of the Savannas; A Field Guide to the Mammals of Australia; African Predators; North American Tree Squirrels; Walking with Bears; Gorillas Among Us; Turtles, Tortoises, and Terrapins: Survivors in Armor; Sea Turtles of Hawaii; Dangerous Wildlife in the Mid-Atlantic; Dangerous Wildlife in the Southeast; Dragonflies of the World; Wildlife of Southern Forests: Habitat and Management; Antarctica and the Arctic: The Complete Encyclopedia; The Nature of Nebraska; Animals and Plants of the Ancient Maya: A Guide; The Complete Encyclopedia of the Freshwater Aquarium; Lichens of North America; Lessons from Amazonia: The Ecology and Conservation of



a Fragmented Forest; Forest Giants of the Pacific Coast; Return of the Wild; Large Mammal Restoration; Hiking Kentucky; Alaska: Off the Beaten Path; and The San Pedro River: A Discovery Guide.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [45]. 2002. Slatington, Pennsylvania, Wildlife Information Center, Inc.

Ref Type: Journal (Full)

Ref ID: 88

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Restoration/Ecology/Birds/Field

Guide/Grassland/Conservation/History/Plants/Pennsylvania/Climate Change

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Restoration Fund, news from the Raptor Corridor Project (including the Alpine Rose Resort, WWoW, the Bluebird Project, the Ecology Camp, and black bear encounters), wildlife issues and news (regarding condor chicks, ivory-billed woodpeckers, bald eagles, ospreys, and bird banders) and a message from the Executive Director. This issue also includes reviews of the following books: Handbook of the Birds of the World Volume 7: Jacamars to Woodpeckers; A Field Guide to the Birds of Eastern and Central North America; All-Weather Hawk Watcher's Field Journal; The Complete Guide to the Birds of Europe; Birds of Voyageurs National Park; The Purple Martin; Grassland Grouse and Their Conservation; The Behavior of Texas Birds; Where to Watch Birds in Central America, Mexico, and the Caribbean; Wildlife in East Africa; Wildlife of the Galapagos; Encyclopedia of Marine Mammals; Mammals of Europe; Frontiers of Fear: Tigers and People in the Malay World, 1600-1950; The Ghost Trembling Wings: Science, Wishful Thinking, and the Search for Lost Species; A Beast the Color of Winter: The Mountain Goat Observed; Bear Attacks: Their Causes and Avoidance; Shark Attacks: Their Causes and Avoidance; Twelve Days of Terror: A Definitive Investigation of the 1916 New Jersey Shark Attacks; Rhinos: Natural History and Conservation; Beavers; Sharks (Perrine, Doug); Sharks (Ferrari, Andrea & Antonella); Reef Life; Turtles and Tortoises; Weird Nature; The Dance of the Flying Gurnards;

[Inland Fishes of California](#); [Butterflies of Europe](#); [Coral Reef of Fishes](#); [Minding Animals](#);  
[Wildflowers and Other Plants of Texas Beaches and Islands](#); [In the Absence of Predators](#);  
[Conservation and Controversy on the Kaibab Plateau](#); [Conserving Living Natural Resources](#);  
[Multitrophic Level Interactions](#); [Good News for Change: Hope for a Troubled Planet](#); [Eco-Economy: Building an Economy for the Earth](#); [Fire: A Brief History](#); [Driven Wild: How the Fight against Automobiles Launched the Modern Wilderness Movement](#); [Keepers of the Wolves: The Early Years of Wolf Recovery in Wisconsin](#); [In the Dust of Kilimanjaro](#); [Feeding the World: A Challenge for the Twenty First Century](#); [Conservation of Exploited Species](#); [Primates Face to Face: The Conservation Implication of Human-Nonhuman Primate Interactions](#); [Population Viability Analysis](#) ; [Natural Pennsylvania: Exploring the State Forest Natural Areas](#); [The Desert Smells Like Rain: A Naturalist in O'Odham Country](#); [Edward Abbey: A Life](#); [Making Parks Work: Strategies for Preserving Tropical Nature](#); [Wildlife Restoration: Techniques for Habitat Analysis and Animal Monitoring](#); [Wildlife Response to Climate Change](#); [The Roadless Yaak](#); [Build Your Own Birdhouses](#); and [Northwest Arid Lands: An Introduction to the Columbia Basin Shrub-Steppe](#).

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [45]. 2002. Slatington, Pennsylvania, Wildlife Information Center, Inc.

Ref Type: Journal (Full)

Ref ID: 86

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Restoration/Ecology/Birds/Field Guide/Grassland/Conservation/History/Plants/Pennsylvania/Climate Change

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Restoration Fund, news from the Raptor Corridor Project (including the Alpine Rose Resort, WWoW, the Bluebird Project, the Ecology Camp, and black bear encounters), wildlife issues and news (regarding condor chicks, ivory-billed woodpeckers, bald eagles, ospreys, and bird banders) and a message from the Executive Director. This issue also includes reviews of the following

books: Handbook of the Birds of the World Volume 7: Jacamars to Woodpeckers; A Field Guide to the Birds of Eastern and Central North America; All-Weather Hawk Watcher's Field Journal; The Complete Guide to the Birds of Europe; Birds of Voyageurs National Park; The Purple Martin; Grassland Grouse and Their Conservation; The Behavior of Texas Birds; Where to Watch Birds in Central America, Mexico, and the Caribbean; Wildlife in East Africa; Wildlife of the Galapagos; Encyclopedia of Marine Mammals; Mammals of Europe; Frontiers of Fear: Tigers and People in the Malay World, 1600-1950; The Ghost Trembling Wings: Science, Wishful Thinking, and the Search for Lost Species; A Beast the Color of Winter: The Mountain Goat Observed; Bear Attacks: Their Causes and Avoidance; Shark Attacks: Their Causes and Avoidance; Twelve Days of Terror: A Definitive Investigation of the 1916 New Jersey Shark Attacks; Rhinos: Natural History and Conservation; Beavers; Sharks (Perrine, Doug); Sharks (Ferrari, Andrea & Antonella); Reef Life; Turtles and Tortoises; Weird Nature; The Dance of the Flying Gurnards; Inland Fishes of California; Butterflies of Europe; Coral Reef of Fishes; Minding Animals; Wildflowers and Other Plants of Texas Beaches and Islands; In the Absence of Predators: Conservation and Controversy on the Kaibab Plateau; Conserving Living Natural Resources; Multitrophic Level Interactions; Good News for Change: Hope for a Troubled Planet; Eco-Economy: Building an Economy for the Earth; Fire: A Brief History; Driven Wild: How the Fight against Automobiles Launched the Modern Wilderness Movement; Keepers of the Wolves: The Early Years of Wolf Recovery in Wisconsin; In the Dust of Kilimanjaro; Feeding the World: A Challenge for the Twenty First Century; Conservation of Exploited Species; Primates Face to Face: The Conservation Implication of Human-Nonhuman Primate Interactions; Population Viability Analysis ; Natural Pennsylvania: Exploring the State Forest Natural Areas; The Desert Smells Like Rain: A Naturalist in O'Odham Country; Edward Abbey: A Life; Making Parks Work: Strategies for Preserving Tropical Nature; Wildlife Restoration: Techniques for Habitat Analysis and Animal Monitoring; Wildlife Response to Climate Change; The Roadless Yaak; Build Your Own Birdhouses; and Northwest Arid Lands: An Introduction to the Columbia Basin Shrub-Steppe.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [48]. 2003.

Ref Type: Journal (Full)

Ref ID: 91

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Restoration/Birds/History/The New York Times/Conservation/Ecology/Plants

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Wildlife Refuge, the restoration project, the refuge fund, hiking and wildlife observation trails on the refuge, wildlife issues (regarding raptors and songbirds, the American marten, and more), and a message from the Executive Director. This issue also includes reviews of the following books: Firefly Encyclopedia of Birds; Birds of the Yukon Territory; Pipits and Wagtails; The Howard and Moore Complete checklist of the Birds of the World; The Whaling Season: An Inside Account of the Struggle to Stop Commercial Whaling; The Beaver: Natural History of a Wetlands Engineer; The New York Times Book of Mammals; The Last Big Cats: An Untamed Spirit; Texas Bats; Snakes of the United States and Canada; Lizards; The New York Times Book of Insects; The Smithsonian Book of National Wildlife Refuges; Hoagland on Nature; Animal Behavior and Wildlife Conservation; Population Ecology: First Principle; Ecology and Control of Introduced Plants; The Smithsonian Atlas of the Amazon; Plan B: Rescuing a Planet Under Stress and a Civilization in Trouble; Bringing Society Back; The Commons in a New Millennium: Challenges and Adaptations; Hiking the Blue Ridge Parkway; and Best Easy Day Hikes, Blue Ridge Parkway.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [47]. 2003.

Ref Type: Journal (Full)

Ref ID: 90

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Restoration/Ecology/Pennsylvania/Birds/Plants/Conservation/Biodiversity

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Wildlife Refuge, the restoration project, ecology camp, hawkwatching, wildlife issues and

news (regarding Pennsylvania eagles, Peregrines, black bears, and more), and a message from the Executive Director. This issue also includes reviews of the following books: Birds and Light; Pheasants, Partridges, and Grouse; A Photographic Guide to the Birds of Southeast Asia; A Photographic Guide to the Birds of Indonesia; A Photographic Guide to the Birds of India; The Birds of Heaven: Travels with Cranes; Golden Wings; Wilderness; The Complete Guide to Antarctic Wildlife; Life on Air: Memoirs of a Broadcaster; The Life of Mammals; Marine Mammals of the North Atlantic; Parasites and Diseases of Wild Birds in Florida; Exploring Animal Behavior in Laboratory and Field; Insect Lives: Stories of Mystery and Romance from a Hidden World; The Wild Orchids of North America, North of Mexico; People and Plants in Ancient Eastern North America; The Sunflower Forest. Ecological Restoration and the New Communion with Nature; Man and Nature; The Real Environmental Crisis. Why Poverty, Not Affluence, Is the Environment's Number One Enemy; Green Phoenix; Protecting the Ozone Layer: Science and Strategy; Just Sustainabilities, Development in an Unequal World; Bringing the Biosphere Home: Learning to Perceive Environmental Change; Reproductive Science and Integrated Conservation; Australian Plant Communities: Dynamics of Structure, Growth, and Biodiversity; Hiking Great Smoky Mountains National Park; and Hiking West Virginia.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [45]. 2003.

Ref Type: Journal (Full)

Ref ID: 89

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh

Gap/Wildlife/Restoration/Conservation/Birding/Birds/Field

Guide/History/Ecology/Amphibians/Geology/Ecosystems/Ecosystem/Pennsylvania/Weather/Clim  
ate Change

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Wildlife Refuge Fund, the Lehigh Gap restoration project, news from the Kittatinny Raptor Corridor Project, wildlife issues and news (regarding the California Condor, vultures, horseshoe crabs, monarch butterflies, black bear contraception, black footed ferrets, West Nile virus,

conservation easements, and more), and a message from the Executive Director. This issue also includes reviews of the following books: Parts Unknown; Sibley's Birding Basics; Birds of Western and Central Africa; Birds of Venezuela; Stonechats: A Guide to the Genus Saxicola; A Field Guide to Hummingbirds of North America; Birds of Nebraska; North American Owls: Biology and Natural History; Saving Migrant Birds: Developing Strategies for the Future; Restoring North America's Birds: Lessons from Landscape Ecology; Birds of Southern Africa; Mammals of North America; Amphibians and Reptiles of Europe; Tigers and Tigerwallahs; The Last Tasmanian Tiger; Smithsonian Institution Book of Giant Pandas; North American Elk: Ecology and Management; Raccoons: A Natural History; Bats; The Extermination of the American Bison; The American Bison: A Natural History; Killer Whales in the World; Seashore Life Illustrations CD-ROM and Book; Manatees: Natural History and Conservation; Coral Reefs: Ecology, Threats, and Conservation; Mountains: Geology, Natural History, and Ecosystems; Hunter and Hunted: Relationships between Carnivores and People; Fishes of the Chesapeake Bay; The Rockfishes of the Northwestern Pacific; Seashore Life of Florida and the Caribbean; Everglades Wildflowers; Firefly Encyclopedia of Reptiles and Amphibians; Firefly Encyclopedia of Insects and Spiders; Rainforest; Chasing the Dragon's Tail; Amazon Sweet Sea; The Pennsylvania Weather Book; One World: The Ethics of Globalization; The Two-Mile Time Machine: Ice Cores, Abrupt Climate Change, and Our Future; The Earth Remains Forever: Generations at a Crossroads; The Earth Policy Reader; Mice in the Freezer; Owls on the Porch; Alfred Russell Wallace: A Life; Beyond Earth Day: Fulfilling the Promise; Our Magnificent Wilderness; Appalachian Trail on My Mind; Wisconsin Natural Communities; Natural Landscaping: Designing with Native Plant Communities; Pacific High: Adventures in the Cost Range from Baja to Alaska; 2003 Conservation Directory; New York: Off the Beaten Path; Voyage of the Beagle; Edward Abbey: A Life; and Tomorrow's Energy: Hydrogen, Fuel Cells, and the Prospects for a Cleaner Planet.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [49]. 2004.

Ref Type: Journal (Full)

Ref ID: 92

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist

Notes: Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Wildlife Refuge, the restoration process, refuge news and events (including a count of species found on the Refuge, birding day, ecology camp, and more), news from the Kittatinny Raptor Corridor Project, and a message from the Executive Director. This issue also includes reviews of the following books: Hawks and Owls of Eastern North America; Handbook of the Birds of the World. Volume 8: Broadbills to Tapaculos; Sparrows & Finches of the Great Lakes Region & Eastern North America; Owls of the World, Their Lives, Behavior and Survival; Raptors of Eastern North America; Raptors of Western North America; Gorillas, Natural History & Conservation; Panda Rescue, Changing the Future for Endangered Species; Tiger Rescue, Changing the Future for Endangered Species; Mysterious Manatees; Beyond Wolves, The Politics of Wolf Recovery and Management; The Return of Mexican Gray Wolf; The Natural History of Madagascar; The Circle of Life: Wildlife on the African Savannah; Grizzly Seasons, Life with the Brown Bears of Kamchatka; Dinosaurus: The Complete Guide to Dinosaurs; Lizards, Windows to the Evolution of Diversity; Sea Turtles of the World; Reptiles and Amphibians of the Amazon, An Ecotourist's Guide; Snakes of the United States and Canada; The Empty Ocean; The Shark Almanac; Butterflies; Complete Encyclopedia of the Saltwater Aquarium; North American Wildland Plants: A Field Guide; Wild Australasia; Identity and the Natural Environment: The Psychological Significance of Nature; Gaia's Body: Toward a Physiology of the Earth; Birds, Scythes and Combines: A History of Birds and Agricultural Change; The Land We Share, Private Property and the Common Good; Larding the Lean Earth, Soil, and Society in Nineteenth-Century America; Drafting a Conservation Blueprint, A Practitioner's Guide to Planning for Biodiversity; 2004 Conservation Directory; Death in the Everglades, The Murder of Guy Bradley, America's First Martyr to Environmentalism; Martin Johnson Heade in Florida; Politics, Pollution, and Paradise: An Environmental Memoir; A Bat Man in the Tropics: Chasing el Duende; Mammal Community Dynamics, Management and Conservation in the Coniferous Forests of Western North America; Wildlife Population Growth Rates; The Encyclopedia of Ecotourism; Colorado: Off the Beaten Path; Myth and History in the Creation of Yellowstone National Park; The National Wildlife Refuges, Coordination a Conservation System Through Law; The Fight to Save the

Redwoods: A History of Environmental Reform, 1917-1978; and Beautiful Butterflies Stained Glass Coloring Book.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [50]. 2004.

Ref Type: Journal (Full)

Ref ID: 93

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Succession/Birding/Ecology/Pennsylvania/Birds/Plants/Conservation

Notes: Lehigh Gap Nature Center

Largely featured in the issue of the Wildlife Information Center's newsletter are articles about the Lehigh Gap Wildlife Refuge including information about the refuge fund, ecological succession, birding day, and the ecology camp. This issue also includes reviews of the following books:

Guide to Hawk Watching in North America; Pennsylvania Birds, An Introduction to Familiar Species; Hawks and Owls of the Great Lakes Region & Eastern North America; The Bird Almanac; Birds of Africa South of the Sahara; Birds of Northern India ; Stalking the Big Bird, A Tale of Turkeys, Biologists, and Bureaucrats; Estimating Numbers of Terrestrial Birds; The Ivory-Billed Woodpecker; The Raptor Almanac; Endangered and Threatened Animals of Florida and Their Habitats; Total Critter Control; The Complete Guide to Edible Wild Plants, Mushrooms, Fruits, and Nuts; Invasive Plants Western North America; Agaves of Continental North America; Under a Wild Sky, John James Audubon and the Making of Birds of America; The Man from Clear Lake: Earth Day Founder Senator Gaylord Nelson; Red Sky at Morning, America and the Crisis of the Global Environment; Conservation in the Progressive Era; Experiments in Consilience; and Raptors of Hawk Mountain: A Coloring Book.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [51]. 2004.

Ref Type: Journal (Full)

Ref ID: 94

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Restoration/Pennsylvania/Birds/Birding/Ecology/History/Conservation/Geology/Wate



r

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Wildlife Refuge, including "Lehigh Gap Wildlife Refuge Fund Update," "Executive Director's Message: Enjoying the Refuge," "Lehigh Gap Restoration Project, Year 2 Update," "Summer Warblers at LGWR," "Lehigh Gap Wildlife Refuge and News and Events." Also included in the issue are articles on the news from the Kittatinny Raptor Corridor Project, and wildlife issues and news related to the California Condor, West Nile Virus, and bald eagles in Pennsylvania. The following books are reviewed in this issue: Handbook of the Birds of the World. Volume 9: Cotingas to Pipits and Wagtails; North American Owls; The Birdwatcher's Companion: North American Birdlife; Birds of Australia, 7 ed.; Bird of Africa South of the Sahara; Exploring the Great Texas Coastal Birding Trail; Birdwatching in Vermont; Ecology and Evolution of Cooperative Breeding in Birds; Birds in the Hand: Fiction and Poetry About Birds; Wolves of the World, Natural History and Conservation; Vicious: Wolves and Men in America; The Grizzly Almanac, A Fully Illustrated Natural and Cultural History of America's Great Bear; The Cougar Almanac, A Complete Natural History of the Mountain Lion; Cougar Attacks, Encounters of the Worst Kind; Mammals of California ; Untamed; The Mammals of Texas; The Encyclopedia of Deer; Tiger; Built for Speed: A Year in the Life of Pronghorn; Appalachian Trail Wildlife: An Introduction to Familiar Species; Living with Wildlife in the Pacific Northwest; There's A Bobcat In My Backyard! Living With and Enjoying Urban Wildlife; Do Animals Think? Shark; Butterflies of North America; The Monarch Butterfly: Biology and Conservation; Dragonflies; Conserving Migratory Pollinators and Nectar Corridors in Western North America; For Love of Insects; Animal Rights, Current Debates, and New Directions; Geology and Plant Life; No Place Distant; Quiet Water New Jersey; Sea Kayaking Along the New England Coast; Day and Overnight Hikes: Great Smoky Mountains National Park; Lip Smakin' Vegetarian Backpackin' Lightweight Trail-Tester Vegetarian Recipes for Backcountry Trips; National Wildlife Refuges of Alaska; The Wilderness Life; Imagining Wild America; Voyageur's National Park, The Battle to Create Minnesota's National Park; Kenya, The Bradt Travel Guide; State of the World 2004; Acid Rain Science and

Politics in Japan; The Green State: Rethinking Democracy and Sovereignty; Alien Species and Evolution; A Primer in Conservation Genetics; Conservation: Studies in Biology; Natural Enemies, An Introduction to Biological Control; Wetland and Riparian Area of the Intermountain West: Ecology and Management; and Jack Ward Thomas: The Journals of a Forest Service Chief.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [52]. 2005.

Ref Type: Journal (Full)

Ref ID: 95

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Birding/Birds/Ornithology/History/Conservation/Biodiversity/Field Guide/Succession/Ecosystem/Water

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Wildlife Refuge Fund, winter on the Refuge, winter boreal birding, the Kittatinny Raptor Corridor Project, wildlife issues (including information on raptors, the peregrine falcon, British woodland birds, beavers and prairie dogs), and a message from the Executive Director. Also included in this issue are reviews of the following books: The Carolina Parakeet: Glimpses of the Vanished Bird; Return of the Peregrine, A North American Saga of Tenacity and Team Work; Birds of the Gulf Coast; Gulls of North America, Europe, and Asia; Susquehanna River Birding and Wildlife Trail; Guide to the Great Florida Birding Trail, East Section; Cornell Lab of Ornithology Handbook of Bird Biology; Birds of the Middle East; Beasts of Eden: Walking Whales, Dawn Horses, and Other Enigmas of Mammal Evolution; Mammals of North America; Orangutans: Wizards of the Forest; Right Whales: Natural History & Conservation; Leopards: Natural History & Conservation; The Burgess Animal Book for Children; Beast of Never, Cat of God: The Hunt for the Mountain Lion East of the Mississippi; Connecticut Wildlife: Biodiversity, Natural History, and Conservation; A county Practice: Scenes from the Veterinary Life; The Venomous Reptiles of the Western Hemisphere; The Last Monarch Butterfly: Conserving the Monarch Butterfly in a Brave New World; My First Summer in the Sierra; Sierra Nevada Natural History; Deserts; Death Valley National Park: A Guide to Exploring the Great Outdoors; How the

[Earthquake Bird Got Its Name and Other Tales of an Unbalanced Nature](#); [Pathway to Sustainability: Defining the Bounds on Forest Management](#); [Prairie: A North American Guide](#); [A Field Guide to the North American Prairie](#); [Primary Succession and Ecosystem Rehabilitation](#); [Environmental Governance Reconsidered: Challenges, Choices and Opportunities](#) ; [America's Environmental Report Card: Are We Making the Grade?](#); [Citizen's Primer for Conservation Activism: How to Fight Development in Your Community](#); [Tending Fire: Coping with America's Wildland Fires](#); [The Chiefs Remember: The Forest Service, 1952-2001](#); [Correction Lines: Essays on Land, Leopold, and Conservation](#); [Aldo Leopold: A Fierce Green Fire](#); [Nature's Strongholds: The World's Great Wildlife Reserves](#); [The American Heritage Science Dictionary](#); [Outgrowing the Earth: The Food Security Challenge in an Age of Falling Water Tables and Rising Temperatures](#); [Scientists Debate Gaia: The Next Century](#); and [The Remarkable Life of William Beebe, Explorer and Naturalist](#).

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [53]. 2005.

Ref Type: Journal (Full)

Ref ID: 96

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Restoration/Ecology/Field Guide/Birds/Environmental Justice/Pennsylvania

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Refuge Fund, extinction and restoration, the Lehigh Gap's ecology camp, an update of the Lehigh Gap restoration and habitat projects, wildlife issues and news (including information on bald eagles, bears, and Common Mergansers), and a message from the Executive Director. Also included in this issue are reviews of the following books: [The Grail Bird](#); [Kauffman Field Guide to the Birds of North America](#); [Whose Bird? Common Bird Names and the People They Commemorate: Shorebirds of North America, The Photographic Guide](#); [Birds of Western Africa](#); [Chasing Neotropical Birds](#); [Waterfowl of Eastern North America](#); [Tracking Desire: A Journey After Swallow-tailed Kites](#); [The Texas Ornithological Society Handbook of Texas Birds](#); [Whales & Dolphins of the World](#); [The Encyclopedia of Animals" A Complete Visual Guide](#); [The Kingdom](#)

Pocket Guide to African Mammals; Decade of the Wolf: Returning the Wild to Yellowstone; The Lost Wolves of Japan; Bear Attacks of the Century: True Stories of Courage and Survival; Prairie Dog Empire: A Sage of the Shortgrass Prairie; Entanglements: The Intertwined Fates of Whales and Fisherman; Everglades Wildlife; Sharks of the World; Snakes of the Southeast; The Behavior and Ecology of Pacific Salmon & Trout; Butterflies of the East Coast: An Observer's Guide; Insights from Insect: What Bad Bugs Can Teach Us; Teaching the Trees: Lessons from the Forest; Ethics for a Small Planet; Diamond: A Struggle for Environmental Justice in Louisiana's Chemical Corridor; Project for the Birder's Garden; Species @ Risk: Using Economic Incentives to Shelter Endangered Species on Private Land; Out of Eden: An Odyssey of Ecological Invasion; A Falcon Guide to Everglades National Park and Surrounding Areas; North Carolina Hiking Trails; and Pennsylvania Starwatch: The Essential Guide to Our Night Sky.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [54]. 2005.

Ref Type: Journal (Full)

Ref ID: 97

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Birds/Restoration/Education/History/Birding/Field Guide/Conservation/Biodiversity/Plants/Water

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles on the Lehigh Gap Wildlife Refuge Fund, a habitat project for birds, news from the Kittatinny Raptor Corridor Project, Lehigh Gap Refuge News (including information on the restoration project, osprey platforms, trails, and the expansion of the education program), wildlife issues and news (including information on the Arctic, the California Condor, chestnut trees, Canada goose, and the Eastern Kingbird), and a message from the Executive Director. Also included in this issue are reviews of the following books: Handbook of the Birds of the World: Volume 19, Cuckoo-shrikes to Thrushes; Hawks from Every Angle: How to Identify Raptors in Flight; The Gyrfalcon; The Grebes; Seabirds, A Natural History; Nests, Eggs, and Nestlings of North American Birds; Birding North Carolina; In the Company of Crows and Ravens; The Singing Life of Birds; Secret Lives of

[Common Birds](#); [Why Birds Sing: A Journey into the Mystery of Bird Song](#); [To Save the Wild](#)  
[Bison: Life on the Edge of Yellowstone](#); [Tiger Bone & Rhino Horn: The Destruction of Wildlife for](#)  
[Tradition Chinese Medicine](#); [A Field Guide to North Atlantic Wildlife: Marine Mammals, Seabirds,](#)  
[Fish, and Other Sea Life](#); [Large Carnivores and the Conservation of Biodiversity](#); [Out of Blue: A](#)  
[Journey through the World's Oceans](#); [People and Predators: From Conflict in Coexistence](#); [Living](#)  
[With Coyotes](#); [The Smaller Majority](#); [Under Ground: How Creatures of Mud and Dirt Shape our](#)  
[World](#); [The Ocean and Coastal Conservation Guide: The Blue Movement Directory](#); [Caterpillars](#)  
[of Eastern North America](#); [Trees of New England: A Natural History](#); [Fall Foliage: The Mystery,](#)  
[Science, and Folklore of Autumn Leaves](#); [Invasive Plants of the Upper Midwest](#); [Seeing the](#)  
[Forest and the Trees: Human Environment Interactions](#); [The Nature Handbook: A Guide to](#)  
[Observing the Great Outdoors](#); [Appalachian Winter](#); [Rewilding North America: A Vision for](#)  
[Conservation in the 21<sup>st</sup> Century](#); [Paradise Lost? The Environmental History of Florida](#); [The](#)  
[Tallgrass Restoration Handbook: For Prairies, Savannas, and Woodlands](#); [Deep Water: The Epic](#)  
[Struggle over Dams, Displaces People, and the Environment](#); [Cities in the Wilderness: A New](#)  
[Vision of Land Use in America](#); [Sustainable Energy: Choosing Among Options](#); [The Hype about](#)  
[Hydrogen](#); [From Resource Scarcity to Ecological Security: Exploring New Limits to Growth](#);  
[Seeing Yellowstone in 1871](#); and [Under a Wild Sky: John James Audubon and the Making Birds](#)  
[of America](#).

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [55]. 2006.

Ref Type: Journal (Full)

Ref ID: 98

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh  
Gap/Wildlife/Restoration/Warm Season Grasses/Grasses/Award/Birds/Pennsylvania/Field  
Guide/Conservation/History/Plants/Biodiversity

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles regarding the  
Lehigh Gap including the restoration, native warm season grasses, the student ecologist awards,  
the spring clean-up, and volunteers building new trails. Other articles include information on the

Kittatinny Raptor Project including the winter bird survey and wind turbine resolution, wildlife news and issues regarding whooping cranes, bald eagles, California condors, Alaska wolves, and Common Mergansers. This issue also contains reviews of the following books Return to Wild America: A Yearlong Search for the Continent's Natural Soul; Birds of Pennsylvania; Woodpeckers of North America; Raptors of California; The Herons; The Real Roadrunner; Arizona Breeding Bird Atlas; A Field Guide to the Birds of the Gambia and Senegal; Birds in the Hand: Fiction & Poetry About Birds; Platypus; Tasmanian Tiger: The Tragic Tale of How The World Lost Its Most Mysterious Predator; America's Last Wild Horses; World Atlas of Great Apes and Their Conservation; Buffalo: Natural History and Conservation; Mammals of the National Parks: Conserving America's Wildlife and Parklands; Whale Rescue; Sea Turtles: A Complete Guide to Their Biology, Behavior, and Conservation; Singing Whales and Giant Squid: The Discovery of Marine Life; Texas Snakes: A Field Guide; A Dazzle of Dragonflies; State of the Wild 2006; The Tracker's Field Guide; A Field Guide to Animal Tracks; Advanced Outdoor Navigation; This Tender Place: The Story of a Wetland Year; Guide to Gardening for Life in Southeastern Pennsylvania; Zorro's Field: My Life in the Appalachian Woods; Armitage's Native Plants for Native American Gardens; Appalachian Wildflowers; Desert Wetlands; People and Wildlife: Conflict of Coexistence; Wilderness Forever: Howard Zahniser and the Path to the Wilderness Act; The River of the Mother of God and Other Essays by Aldo Leopold; Plan B 2.0: Rescuing a Planet Under Stress and a Civilization in Trouble; Power, Justice, and the Environment; Handbook of Biodiversity Methods: Survey, Evaluation, and Monitoring; Wilderness Predators of the Rockies: The Bond Between Predator and Prey; and Twilight of the Mammoths: Ice Age Extinctions and the Rewilding of America.

Wildlife Information Center, Inc. Wildlife Activist. Wildlife Activist [56]. 2006.

Ref Type: Journal (Full)

Ref ID: 99

Keywords: Lehigh Gap Nature Center/Lehigh Gap Wildlife Refuge/Wildlife Activist/Lehigh Gap/Wildlife/Ecological Assessment/Conservation/Award/Education/Birds/Birding/Field Guide/Ecology/Amphibians/Aquatic/Plants/History

Notes: Lehigh Gap Nature Center

Featured in the issue of the Wildlife Information Center's newsletter are articles regarding the Lehigh Gap including the refuge glass planting, the ecological assessment, the refuge bird survey, the cooperative conservation partnership award, summer education programs, and a message from the Executive Director. Other articles include information on wildlife issues and news including endangered species, Lehigh Gap otters, red-tailed hawks, and malta birds. This issue also contains reviews of the following books: Birding and Wildlife Trails" New Jersey Delaware Bayshore; The Shorebird Guide; Pete Dunn's Essential Field Guide Companion; Parrots of the World: An Identification Guide; Shorebirds of North America, Europe, and Asia: A Guide to Field Identification; Tanagers, Cardinals, and Finches of the United States and Canada: The Photographic Guide; Birds of East Africa: Kenya, Tanzania, Uganda, Rwanda, and Burundi; On Bobwhites; A Guide to the Birds of the Southeastern States: Florida, Georgia, Alabama, and Mississippi; Grizzlies and Grizzled Old Men; The Essential Grizzly; Wolf: Legend, Enemy, Icon; White-Tailed Deer; Habitat: Ecology and Management on Rangelands; Rhino Rescue; Frogs: Inside Their Remarkable World; The Florida Manatee: Biology and Conservation; Discovering Dolphins; Amphibians, Reptiles, and Their Habitats at Sabino Canyon; Guide to Aquatic Insects and Crustaceans; Life in the Chesapeake Bay: An Illustrated Guide to the Fishes, Invertebrates, Plants, Birds, and Other Inhabitants of the Bays and Inlets from Cape Cod to Cape Hatteras, 3 ed.; North American Mushrooms; Galapagos: A Natural History; Birds, Mammals, and Reptiles of the Galapagos Islands: An Identification Guide; Vietnam: A Natural History; Lapland: A Natural History; A Naturalist's Guide to Grant Teton and Yellowstone National Parks; It's a Jungle Up There: More Tales from the Treetops; Secrets of the Savanna; Out of Eden: An Odyssey of Ecological Invasion; Grand Canyon: Little Things In a Big Place; Seeking the Sacred Raven: Politics and Extinction on a Hawaiian Island; Nature Noir: A Park Ranger's Patrol in the Sierra; Prairie Time: A Backland Portrait; Windows on Nature: The Great Habitat Dioramas of the American Museum of Natural History; The Essential Aldo Leopold: Quotations and Commentaries; Ecological Consequences of Artificial Lighting; and Environmental Citizenship.

Wixson, Bobby G. and Davies, Brian E. Guidelines for Lead in Soil- Proposal of the Society for Environmental Geochemistry and Health. 1993. American Chemical Society.

Ref Type: Report

Ref ID: 440

Keywords: Housedust/Lead/Public Health/Soil/Risk Assessment/Public/Public

Comments/Palmerton

Notes: Found in the Black Binder Risk Assessment- Public Comments 2 of 2 at the Palmerton Library, Book Case 1, Shelf 4

"Over the past 20 years the focus of concern about the toxicity of lead to humans- especially small children- has shifted from industrial exposure to environmental exposure...The danger to health from lead residues in soil and dust is now widely accepted. What has not been agreed upon is a value for lead concentration in soil that will protect the public, especially children."

Ziegenfus, Dolores and Palmerton Environmental Task Force. "Palmerton, PA- Superfund Presentation". 2002.

Ref ID: 284

Keywords: History/inc/Palmerton/Superfund/The New Jersey Zinc Company/The New Jersey Zinc Company/New Jersey Zinc Company/Zinc/Superfund law

Notes: Palmerton Library, Book Case 1, Shelf 2

A paper copy of a slide presentation that explains the history of the New Jersey Zinc Company and its timeline leading to Superfund status, what the Superfund law means, and what the Superfund process entails.

Zinc Corporation of America. Some Facts on the Palmerton Cinder Bank. 6-5-1992.

Ref Type: Pamphlet

Ref ID: 160

Keywords: Cinder Bank/Fact Sheet/OU 2/Palmerton

Notes: Palmerton Library, Book Case 3, Shelf 2



Stack of papers

A fact sheet regarding the Palmerton Cinder Bank.

Zvereva, E. L. and M. V. Kozlov. "Top-down effects on population dynamics of *Eriocrania* miners (Lepidoptera) under pollution impact: does an enemy-free space exist?" *Oikos* 115 (2006): 413-26.

Ref ID: 417

Keywords: Birds/Ornithology/Pollution/Nickel/Lehigh Gap/Lehigh Gap Nature Center

Abstract: "In areas disturbed by pollution, populations of herbivorous insects may reach high densities. This study was conducted to test one of the hypotheses attempting to explain this phenomenon \_ that pollution creates an enemy-free space for herbivores. We monitored the population densities of *Eriocrania* leaf-mining moths on mountain birch, *Betula pubescens* subsp. *czerepanovii*, in the vicinity of the nickel \_copper smelter in Monchegorsk (Kola Peninsula, NW Russia) over twelve years (1994\_2005) and assessed larval mortality from parasitoids, ants and birds. The mean density (mines/ birch leaf area) of *Eriocrania* populations in severely disturbed habitats (industrial barrens) was about 2.7 times higher, and peak densities 2 \_4 times higher, than in pristine forests. Temporal population variability (measured as the coefficient of variation of log-transformed densities) increased with an increase in pollution load.

The proportion of infested trees was not affected by pollution, but mine distribution among trees was more clumped in the polluted sites. *Eriocrania* populations in disturbed sites fluctuated independently of each other, whereas populations in forest sites fluctuated in synchrony. Larval mortality caused by parasitoids was lower in disturbed sites only during those years when populations of *Eriocrania* reached high densities; mortality from ants and birds did not differ between disturbed and undisturbed habitats in either high or low density years. In undisturbed forests the rate of population change correlated negatively with previous-year parasitism, suggesting that parasitoids are the key demographic factor in *Eriocrania* population dynamics. In the habitats heavily disturbed by pollution no such correlation was found, which means that negative feedback with parasitoids is disrupted: parasitoids fail to follow host population growth,

thus creating an enemy-free space for *Eriocrania* leafminers."

Notes: Lehigh Gap Nature Center Computer