



Fact Sheet

Crab Orchard National Wildlife Refuge

Metals Areas Operable Unit Update

October 1995

INTRODUCTION

This fact sheet presents the latest information regarding the clean up action for the Metals Areas Operable Unit (Metals OU) at the Crab Orchard National Wildlife Refuge (Refuge). The clean up is being undertaken by the U.S. Fish and Wildlife Service (Service), an agency of the Department of the Interior.

BACKGROUND

The Refuge was established in 1947 by Congress with a mission to support wildlife, recreation, agriculture, and industry. Prior to modern environmental laws, it was common practice for industrial facilities, including those on the Refuge, to use unlined landfills and dumps to dispose of the waste generated by their operations. As a result, a number of locations on the Refuge became contaminated with hazardous waste.

The Superfund clean up at the Refuge has been divided based on types of contamination into four projects, or Operable Units (OUs), and one removal action. They are:

- ◆ Metals Areas (Metals) OU
- ◆ Explosives/Munitions Manufacturing Areas (EMMA) OU
- ◆ Miscellaneous Areas (MISCA) OU
- ◆ Polychlorinated Biphenyls (PCB) Areas OU
- ◆ Water Towers Area (Towers) Removal Action.

CLEAN UP OF THE METALS OU: OVERVIEW

The clean up of the Metals OU focuses on three sites:

- ◆ The Plating Pond, where chromium was found
- ◆ The Fire Station Landfill, where lead and asbestos were found
- ◆ The Old Refuge Shop Channel, where cadmium, chromium, lead, and cyanide were found.

The Service is presently in the process of cleaning up these three sites. The clean up involves excavating the contaminated soil and placing it in an industrial landfill, located off Ogden Road, designed to contain the disposed waste. Soil which is most heavily contaminated will be treated by mixing it with fly ash to stabilize it before placing it in the landfill. This technique has been demonstrated to render the materials non-hazardous and to reduce the mobility of the contamination. The on-site landfill has been constructed using a three-layer design. The foundation is a three-foot, compacted clay liner. The second layer is thick plastic installed to prevent migration of contamination. The third layer is a drainage system consisting of another plastic membrane and three feet of vegetative cover. Excavation and treatment of contaminated soils at the three sites is currently underway near the deer check station on Highway 148.



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UPDATE

Larger Area May Require Remediation

As remediation workers prepared to excavate and treat contaminated soils in the Old Refuge Shop Channel, a 3,800-foot ditch, additional contamination from cadmium, lead, and chromium was found. It appears that the additional contamination extends to, or may be coming from, the nearby shops area and possibly from one or more of the buildings located there. Original investigations had concluded that the source of the contamination was the shops' drainage pool. According to Leanne Moore, Superfund Site Project Coordinator for the U.S. Fish and Wildlife Service, it is not unusual for workers to find more contamination once clean up begins on sites which are as complex as Crab Orchard.

Where Did the Contamination Come From?

Based on preliminary new data, the sediments in a storm sewer pipe which drains into the Old Refuge Shop Channel contain cadmium, lead, and chromium. The contaminant concentrations in the pipe appear to be in the same ranges as those in sediments being remediated in the channel itself.

The U.S. Fish and Wildlife Service has verified from a 1942 drawing that this storm sewer dates back to World War II days. The pipe provides drainage for an area that was occupied by a 12-acre Illinois Ordinance Plant support facility. Records regarding this area are very limited, and the few records available indicate that this "West Shop" support facility was like a village of shops, including: a machine shop, millwright shop, laundry, dry cleaners, and diesel repair shop, among other shops. Other activities included munitions packaging and warehousing, metal

plating, electric and communications services, and a laboratory. Some of these buildings are still standing, as shown in the photograph, and some are leased by the U.S. Fish and Wildlife Service.

Exposure Issues

The potential human health concerns associated with the cadmium-contaminated soils are inhalation (breathing dust from contaminated soil) and ingestion (swallowing the contaminated soil). At this site, because the newly discovered contamination appears to be mainly in the bottoms of the storm sewer inlets and in ditches which are heavily vegetated, the risk of exposure is minimized. As an extra precaution, however, the areas where contamination have been found have been marked off with warning tape. People who work in the leased buildings and Refuge workers can continue normal activities, except any planned excavation in the areas of contamination must be avoided.

TECHNICAL ASSISTANCE GRANTS

USEPA offers **Technical Assistance Grants (TAGs)** to community groups who wish to obtain qualified technical support in reviewing technical study documents prepared for a Superfund site. Information about TAGs is available in the Information Repositories or through the TAG Coordinator, USEPA Region 5, at (800) 621-8431.

For More Information

The Service is committed to its ongoing public involvement program. If you have questions or would like to make comments about the clean up of the Metals Areas OU, call Leanne Moore. If you would like to add your name to the mailing list, call Patti Howard. Send written comments to:

U.S. Fish and Wildlife Service
RR3, Box 328
Marion, IL 62959
(618) 997-5491



WHAT'S NEXT ?

Immediate Action

The storm sewer, which appears to contain the heaviest contamination in the West Shop Area, has been cleaned and the sediments removed. The removed water and sediments are in temporary storage on site, awaiting treatment. The next step will be to test the runoff water that goes through the storm sewer system to determine whether or not it requires treatment. Additional measures have been taken to help reduce the amount of sediment in the water entering the storm sewer, such as wrapping the inlet grates in fabric and placing sandbags around the inlets. The water will be diverted away from the Old Refuge Shop Channel to allow excavation under dry conditions. If the water does require treatment, it will be diverted to a temporary storage pond.




Meanwhile, the Fish and Wildlife Service and R&R International (the remediation contractor) are proceeding quickly with initial clean up activities. R&R has set up their stabilization plant and conducted a test run of the soil to be treated. They have begun excavating the Old Refuge Shop Channel, beginning at the downstream quarter of the channel. The contractor has built a temporary berm upstream of the area being excavated so that excavation can be done under dry conditions. Any runoff water from the West Shop Area that enters the channel will be temporarily stored in the channel, then pumped out and treated in the contractor's on-site water treatment plant. These are temporary measures to allow the work to proceed. As the contractor moves upstream with the excavation, the runoff water from the West Shop Area will eventually need to be diverted to prevent interference with excavation.



Photo: U.S. Army Corps of Engineers
Storm sewers inlets are wrapped in fabric to prevent contamination during clean up operations.

Investigation of West Shop Areas

An investigation of the West Shop is planned. The primary purpose of the investigation is to identify the type of contamination so that remediation can be designed. Remediation is likely to be similar to that being done at other Metals OU sites:

-  Excavation,
-  Stabilization, so that some of the material will not have to be classified as hazardous,
-  Disposal in a landfill.

Administrative Records

An Administrative Record is a file that contains all the information used by the USEPA to make its final decision on the selection of a clean up method for the Metals Areas OU. Its purpose is to provide the public access to site-related information so that they may make informed comments. Two Administrative Records have been set up at the following locations:


Morris Library, Fifth Floor
Southern Illinois University-Carbondale
Carbondale, IL 62901
Contact: Reference Librarian
(618) 453-2818


USEPA, Region 5
77 West Jackson Blvd.
Chicago, IL 60604-3590
Contact: Eileen Deamer
(312) 886-1728

Information Repositories




Additional background information about the Metals Areas OU and other investigation and clean up activities at the Refuge can be found at the following information repositories:

 U. S. Fish and Wildlife Service
Refuge Headquarters
Attn: Superfund Office
RR 3, Box 328
Marion, IL 62959
(618) 997-5491

 Carbondale Public Library
Attn: Reference Librarian
405 West Main Street
Marion, IL 62959
(618) 457-0354

 Marion Carnegie Public Library
206 South Market Street
Marion, IL 62959
(618) 993-5935

 Marion Federal Penitentiary
Department of Justice,
Bureau of Prisons
Attn: Legal Dept.
Rt. 5 Little Grassy Road
Marion, IL 62959

Each Federal and State agency also has a Community Relations Coordinator who serves as a primary point of contact and is available to assist you with questions or comments.

USEPA, Region 5
Eileen Deamer
77 West Jackson Blvd.
Chicago, IL 60604-3590
(312) 886-1728

IEPA
Michelle Nickey-Tebrugge
2200 Churchill Rd.
Springfield, IL 62794-9276
(217) 524-4825

USACE
Kevin Quinn
215 North 17th Avenue
Omaha, NE 68102-4978
(402) 221-3917

U.S. Fish and Wildlife Service
Georgia Parham
620 S. Walker Street
Bloomington, IN 47403-2121
(812) 334-4261

Each agency has also assigned Project Managers to the Crab Orchard Superfund studies who serve as key team members. These are: Nan Gowda--USEPA; Stephen Nussbaum--IEPA; Joe Laird--U.S. Army Corps of Engineers (USACE); and Leanne Moore, Mark Sattelberg, and Mary Gail Scott--Service.

U.S. Fish and Wildlife Service
Attn: Ms. Leanne Moore
RR 3, Box 328
Marion, IL 62959