U.S. Fish & Wildlife Service

Cleanup of Site 36, Wastewater Treatment Plant
Crab Orchard National Wildlife Refuge
Marion, Illinois

Fact Sheet

Introduction

This fact sheet presents information regarding the cleanup of Site 36, the Wastewater Treatment Plant (treatment plant), which is part of the Miscellaneous Areas Operable Unit (MISCA OU) at the Crab Orchard National Wildlife Refuge (Refuge). The design work describing how the cleanup will be completed was finished in December 2004. This cleanup is being conducted by the U.S. Fish and Wildlife Service, an agency of the Department of the Interior.

Site 36, Wastewater Treatment Plant

Site 36

This site is one of several contaminated areas on the Refuge that make up the Refuge National Priority List site (commonly referred to as a "Superfund" site). The treatment plant, located north of Crab Orchard Lake and west of Route 148, was constructed in the early 1940s as part of the Illinois Ordnance Plant and has operated continuously. It has serviced sanitary needs as well as the industry that has been part of the Refuge mission since its establishment in 1947, and for several years it serviced the Marion Federal Penitentiary. The cleanup will begin after the sanitary system is connected to the City of Marion wastewater treatment plant.

The site covers about 50 acres and includes treatment facilities and adjacent ground and drainage channels. The plant used an activated sludge treatment with mechanical aeration, chlorination facilities, heated sludge digestion, and sludge drying beds. Two small ponds, the West Pond (about 0.05 acres) and the East Pond (about 0.3 acres), were constructed east of the sand beds in the late 1950s. Reportedly, during use the West Pond received sludge directly from the anaerobic digester, and the East Pond received overflow from the West Pond. The plant discharged to Crab Orchard Lake via Dove and Pigeon Creeks.

What Type of Contamination Exists?

The treatment plant was investigated as one of the twenty-four sites of the MISCA OU. Multi-phase Remedial Investigations and a Feasibility Study were completed by 2000. The grounds around the plant and various ponds, lagoons, and channels are contaminated with Polychlorinated Biphenyls (PCBs), cadmium, chromium, and other chemicals. Contaminated media include soil, sediment, sludge, groundwater, and surface water. A baseline risk assessment was also completed and considered the pathways of contamination to the potential types of people exposed to potentially contaminated media (soil, groundwater, surface water, etc). The conclusion was that non-cancer risks exceeded U.S. States Environmental Protection Agency's (EPA) target range for construction workers; however, potential lifetime cancer risks and non-cancer risks to site workers and recreational users are within the EPA's acceptable target range. The contaminants in soil, sludge, and sediment pose a potential risk to wildlife.

The Feasibility Study was the basis for recommending a technically feasible and cost-effective cleanup that would be protective of human health and the environment. The Record of Decision for the site, signed by the Department of the Interior and the EPA in 2002, identified the selected remedy [cleanup].

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Among the major responsibilities of the Fish and Wildlife Service is serving the public and conserving and enhancing populations of trust fish and wildlife resources and the habitats upon which they depend. Trust resources include migratory birds, endangered species, and nationally significant fish. Therefore, the Fish and Wildlife Service must address the risk to human health and wildlife species posed by contaminants at the treatment plant. Following is the Fish and Wildlife Service Mission Statement:

"Working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people."

Cleanup to Begin Summer 2005

Based on qualifications and cost, the clean up work was awarded to [redacted] in March 2005. The cleanup is currently expected to take place from late summer to early winter of 2005 and addresses the contamination risks for human health and wildlife, which is of concern to the Refuge's mission. The components of the cleanup include:

- Excavation of contaminated soil, sludge, and sediment
- Demolition of the treatment plant structures
- Off-site disposal of contaminated soils, sludge, sediments, and debris to permitted landfills; soil, sludge, and sediments with PCBs greater than 50 parts per million will be disposed in a landfill specially designed and permitted for chemical or hazardous waste.
- On-site treatment of impounded water to meet State of Illinois surface water quality standards and discharge to a nearby stream.
- Backfilling with clean soils, re-grading, and planting of trees and grasses.

After cleanup, groundwater will be monitored until restored.

Refuge Background Information

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. The CERCLA[1] cleanup at the Refuge has been divided into seven Operable Units (OU), based on types of contamination. These OUs are in different phases of investigation, cleanup, and long term monitoring and include the following:

- Polychlorinated Biphenyls (PCB) OU
- Metals Areas (Metals) OU
- Explosives/Munitions Manufacturing Areas (EMMA) OU
- Miscellaneous Areas (MISCA) OU
- Water Tower Areas (WT) OU
- Lake Monitoring (LM) OU
- Additional and Uncharacterized Sites (AUS) OU.

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 or on the web at http://www.epa.gov/superfund/tools/tag.

More Information

The U.S. Fish & Wildlife Service is committed to its ongoing public involvement program. If you have questions regarding the remediation of the treatment plant, please call Dennis Pinigis, the Project Manager, at (618) 998-5912. Repositories with additional information regarding Site 36 can be viewed at the following locations:

University of Southern Illinois (618) 453-2700
Morris Library, Science Division
555 W. Grand Avenue
Carbondale, Illinois 62901

U.S. Fish & Wildlife Service (618) 997-3344
Crab Orchard National Wildlife Refuge
6987 Headquarters Road
Marion, Illinois 62959

[1] Comprehensive Environmental Response, Compensation & Liability Act

U.S. Fish & Wildlife Service

Region 3 Great Lakes Big Rivers

United States Department of the Interior

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FACSIMILE TRANSMITTAL

To: **Casey Padgett**
Joanna Citron-Day

From: **Leanne Moore** **Date:** 2/17/2005 **Page 1 of**

Re: Draft Site 36 RD Fact Sheet

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Casey and Joanna,

Please let me know if you have any comments/edits.

Thanks

Leanne

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