PHASE I
ENVIRONMENTAL SITE ASSESSMENT
FOR

Crains Island
Wildlife Refuge Rehabilitation
Middle Mississippi River

July 30, 2015

Prepared By
U.S. Army Corps of Engineers
St. Louis District

Phase I – Environmental Site Assessment

Crains Island Wildlife Refuge
Rehabilitation Middle
Mississippi River

Prepared for:
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis, MO 63103

Approved by:

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Kevin P. Slattery
Chief, Environmental Quality Section

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

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Richard D. Archeski
Environmental Engineer

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Appendices

Executive Summary

A Phase I Environmental Site Assessment was conducted for the Crains Island Complex. This area is part of the Middle Mississippi River National Wildlife Refuge (MMRNWR). The Crains Island Complex includes 553 acres and is located approximately 4 miles southwest of the City of Chester, in Randolph County, Illinois on the right descending bank of the Mississippi River between river miles 103 and 106. This project is designed to restore approximately 2 miles of side channel island habitat, and improve the quality of existing secondary channel habitat. The U.S. Fish and Wildlife Service (USFWS) manages Crains as part of the Middle Mississippi River National Wildlife Refuge (MMRNWR). This due diligence effort is intended to provide the minimum information required to assess potential environmental liabilities associated with these sites.

The objective of the Phase I is to identify, to the extent feasible pursuant to the process described herein, recognized environmental conditions (RECs) in connection with a given property(s). This assessment revealed no RECs in connection with this project.

I. Introduction

1.1 Purpose

The U.S. Army Corps of Engineers (USACE) regulations (ER 1165-2-132 and ER 200-2-3), and District policy requires procedures be established to facilitate early identification and appropriate consideration of potential hazardous, toxic, or radioactive waste (HTRW) in reconnaissance, feasibility, preconstruction engineering and design, land acquisition, construction, operations and maintenance, repairs, replacement, and rehabilitation phases of water resources studies or projects by conducting HTRW Initial Hazard Assessments (IHA). USACE specifies that these assessments follow the process/standard practices for conducting Phase I Environmental Site Assessments (ESA) published by the American Society for Testing and Materials (ASTM).

This assessment was prepared using the following ASTM Standards:

- E1527-13: Standard Practice for Environmental Site Assessments – Phase I Environmental Site Assessment process
- E1528-06: Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (interview questionnaires)
- E2247-08 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property

The purpose of a Phase I ESA (IHA) is to identify, to the extent feasible in the absence of sampling and analysis, the range of contaminants (i.e. RECs) within the scope of the U.S. Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products.

The scope of this Phase I consist of the following four components:

a. Records review
b. Site reconnaissance
c. Interviews
d. Report

II. Project/Site Description

2.1 Location Description

The Middle Mississippi River National Wildlife Refuge (MMRNWR) is located in southeast Missouri and southwest Illinois on the un-pooled section of the Mississippi River and encompasses approximately 7,000 acres of riverine, floodplain forest, and wetland ecosystems. The MMRNWR extends 195 river miles from the confluence of the Missouri River at St. Louis south to the confluence of the Ohio River at Cairo, Illinois. The refuge is located in the first section of the Mississippi River downstream of the lock and dam system in the area known as the Middle Mississippi River Regional Corridor. Crains Island is located approximately 4 miles southwest of the City of Chester, in Randolph County, Illinois on the right descending bank of the Mississippi River between river miles 103 and 106. The U.S. Fish and Wildlife Service (USFWS) manages Crains Island as part of the MMRNWR. See figure 1 for site location.

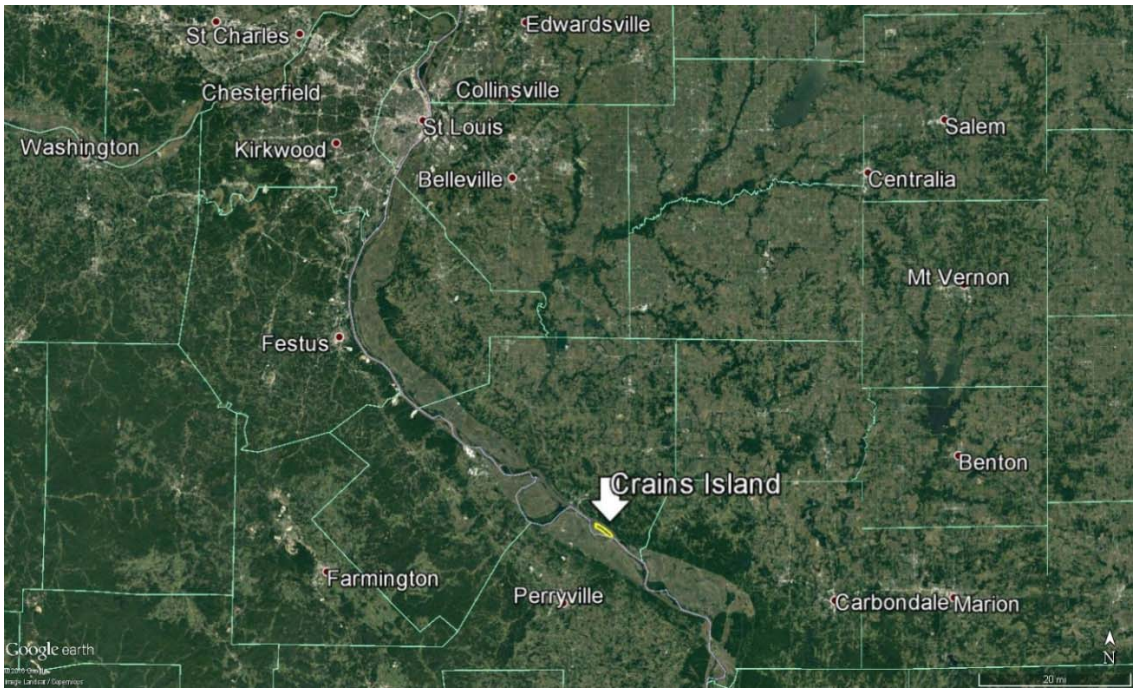
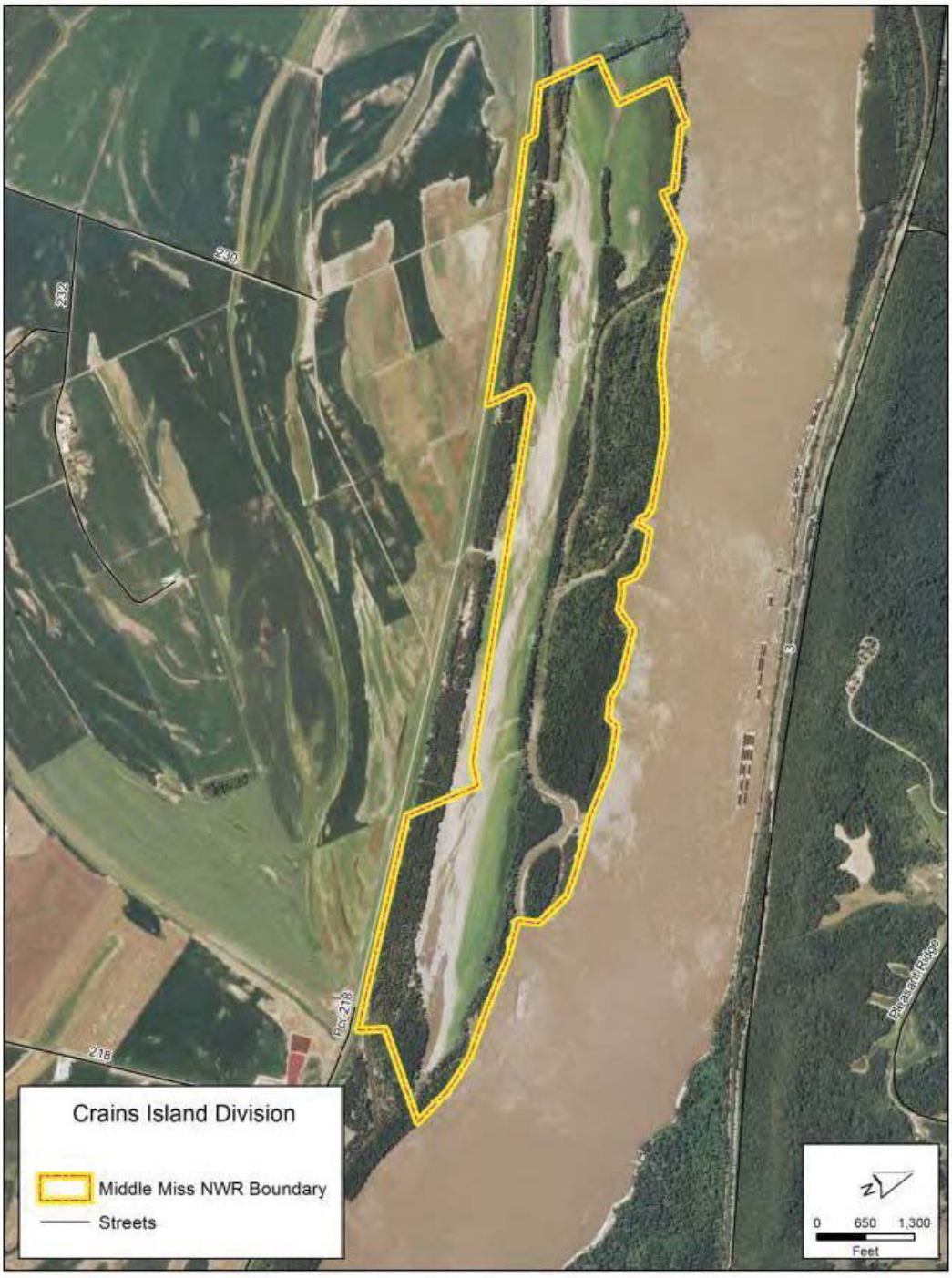


Figure 1
Locator map for Crains Island

2.2 Site/Vicinity Characteristics

The USFWS acquired Crains Island in 2007. Crains has been impacted by major flood events and farmed at different times over the years. Levee breaks after the 1993 flood have exposed the island to high water events which have deposited coarse sediment loads. Farming has since been eliminated and the former cropland has been allowed to re-vegetate into invasive and non-native plant species and a less desirable forest due to its low diversity. The remainder of the island consists of bottomland forest and floodplain forest. This project is designed to restore approximately 2 miles of side channel island habitat, and improve the quality of existing secondary channel habitat. It will reforest floodplain and bottomland hardwood forests, create diversity of non-forested wetlands, and improve water level management to assist in invasive species management. The following figures indicate the property boundaries.



Crains Island Division (553 acres)

Crains Island Division is located in Randolph County, Illinois, between RM 103 and 106 RDB. This division has a CAAB of 958 acres. With the current fee-title holdings of 553 acres, it is 58% acquired. Acquisition in 2007 allowed the Refuge to conserve a remnant braided island/side channel complex located just across the river from Chester, Illinois. Situated on the river side of the

levee in Missouri, the frequently flooded division is a mosaic of remnant oxbows, sloughs, riverfront forests, and secondary river channels. This division was once bordered by the Missouri Chute, an area where the Mississippi River once meandered. Missouri Chute is now used as a drainage ditch in support of the Bois Brule Levee and Drainage district objectives. The purposed project for Crains Island includes excavation and reconnection of 2 miles of side channel, and reforestation of 75 acres.

III. User Provided Information

Site visits, records search, and personal interviews with persons familiar with the area and local hazardous response personnel revealed the remote possibility of encountering HTRW issues. The environmental impact for the migration of off-site contaminants onto the project property is negligible. However, located next to a major river does expose these properties to potential debris drifting down the river from either a spill or flood event.

IV. Records Review

For the purpose of this Phase I, the following standard records sources were obtained and reviewed to assist in the identification of potential REC's in connection with this project:

- National Response Center (NRC)
- Historical Aerial Photographs
- USACE Historical Information
- Historical Topographic Maps
- USFW Service

These records assist in meeting the requirements of EPA's Standards and Practices for All Appropriate Inquires (40 CFR Part 312), and the ASTM Standard Practice for Environmental Site Assessments (E 1527-05). For properties that contained inadequate address information for mapping purposes, reasonable efforts were made to identify the approximate location of the sites in relation to the target properties as part of the review process. In addition, the physical setting was assessed for the target properties by reviewing topographic maps to identify conditions in which hazardous substances or petroleum products could migrate.

4.1 Historical Use Information

The following available historic information sources were obtained and reviewed:
The following historical aerial photographs were reviewed:
1940, 1956, 1980, 1988, 1991, 1993, 1996, 1998, 2005, 2007, 2009, 2011, and 2014

The following historical topographic maps were reviewed:
1915, 1918, 1948, 1968, 1970, 1990, 1993, and 1994

Crains Island formed relatively recently with the earliest available maps dated in 1815. Through the shifting of the Mississippi River, erosion, and buildup of the island, construction of dikes in the 1920s and 1930s, the current island boundary did not take shape until the 1960s. There is no known prehistoric occupation of the island, but a detailed archaeologically survey has not been conducted. Early aerial photography indicates the entire island was cultivated. The island was cultivated until 2007 when the Fish and Wildlife Service purchased the property and taken out of cultivation.

Seventeen vessels have been recorded as being wrecked in the vicinity Crains Island. The nearest known historic wreck is over 1.5 miles away. The nearest known modern wreck is over 3.5 miles away.

No sanborn maps were available for these areas. Review of land use maps reveal that the majority of land adjacent to the project is rural and has been vacant or used for agriculture. The Middle Mississippi River National Wildlife Refuge Habitat Management Plan dated October 2012 was used as a reference.

V. Site Reconnaissance

A site visit to Crains Islands was conducted on 29 January 2015 by Mr. Rick Archeski and Michael Henry of CEMVS-EC-EQ. In addition, the surrounding adjacent properties were also inspected as part of this survey. Photographs documenting the site visit are enclosed as appendix C.

VI. Interviews

Interviews were conducted in order to obtain information indicating RECs in connection with this site. The content of the questions asked followed the questionnaire format of ASTM 1528. The questionnaire is attached to Appendix G. Interviews were conducted with the following persons:

- Jason Wilson – U.S. Fish and Wildlife Assistant Manager Mississippi River National Wildlife Refuge
- John Hartleb Wildlife Refuge Specialist Middle Mississippi River National Wildlife Refuge

VII. Findings

Crains Island:

Illinois Department of Transportation is listed as an IL SWF/LF approximately 2 miles of the site. This is not considered a REC.

Ford Dock Inc. is listed as a US MINES site approximately 1.75 miles from the site.

Lone Eagle Dock is listed as a FINDS, IL AIRS and US AIRS approximately 1.5 miles from the site.

Two sites are listed as IL CDL (Meth Drug Lab), one in Highland and one in Chester.

During the site visit a transformer on a pole near the pump stations was identified. The transformer on the pole near pump stations at south end of Crains Island is in good condition and confirmed by Citizens Electric Company in Perryville, Missouri to be PCB free. No staining around base of pole. This is not considered a REC.

Two 2,000 gallon diesel aboveground storage tanks at pump houses near south end of Crains Island. This is not considered a REC.

Debris from flood events or dumping by local residents was present on the island.

Standard agricultural chemicals were probably used at some time. However, farming practices have been halted for 8, and flood events have probably leached most of the chemicals from the soil.

Interviews with the manager indicated that no spills have occurred in the recent past.

U.S. EPA's Enforcement and Compliance History Online (ECHO) did not indicate any violations.

Generally, the project area contains no sites of interest, which pose significant environmental concerns.

Potential RECs on adjoining or nearby properties are either considered de minimus or only potential RECs that are not expected to impact these sites due to the distance or topographic features.

Currently the only real potential of RECs is from dumping of solid waste by local residents or debris drifting down the river from either a spill or flood event.

According to the NRC there were 43 incidences that took place from 2005 to 2015 that occurred above Crains Island. The majority occurred in Jefferson County, Missouri and Randolph County, Illinois. A listing of these incidences is contained in Appendix F.

VIII Data gaps

Due to the large volume of the NRC report, only the last ten years were reviewed.

IX. Opinion

An Environmental Site Assessment was conducted in conformance with the scope and limitations of ASTM Practice E for the Crains Island Complex. This assessment has revealed no RECs that will affect the project in connection with the property.

X. Conclusions

An Environmental Site Assessment Phase I ESA was conducted in accordance with the scope and limitations of ASTM Practice E 1527 for Crains Island. The assessment revealed no RECs in connection with the property.

XI. Limitations

U.S. Army Corps of Engineers, Environmental Quality Section, should be contacted with any known or suspected variations from the conditions described herein. If future development of the property indicates the presence of hazardous or toxic materials, USACE should be notified to perform a re-evaluation of the environmental conditions.

The scope of this assessment did not include any additional environmental investigation, not outlined herein, or analyses for the presence or absence of hazardous or toxic materials in the soil, ground water, surface water, or air, in on, under or above the subject tract.

This site assessment was performed in accordance with generally accepted practices of consultants undertaking similar studies at the same time and in the same geographical area, and USACE observed that degree of care and skill generally exercised by consultants under similar circumstances and conditions. The findings and conclusions stated herein must be considered not as scientific certainties, but rather as professional opinions concerning the significance of the limited data gathered during the course of the environmental site assessment. No other warranty, express or implied, is made.

Specifically, USACE does not and cannot represent that the site contains no hazardous waste or material, oil (including petroleum products), or other latent condition beyond that observed by USACE during its site assessment.

The observations described in this report were made under the conditions stated herein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedure beyond the scope of described services or the time and budgetary constraints imposed by the client. Furthermore, such conclusions are based solely on site condition, and rules and regulations, which were in effect, at the time of the study.

In preparing this report, USACE relied on certain information provided by state and local officials and other parties referenced therein, and on information contained in the files of state and/or local agencies available to USACE at the time of the site assessment. Although there may have been some degree of overlap in the information provided by these various sources, an attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site assessment was not made.

Observations were made of the site and of structures on the site as indicated within the report. Where access to portions of the site or to structures on the site was unavailable or limited, USACE renders no opinion as to the presence of indirect evidence relating to hazardous waste or material or oil, or other petroleum products in that portion of the site or structure. In addition, USACE renders no opinion as to the presence of hazardous waste or material, oil or other petroleum products or to the presence of indirect evidence relating to hazardous material, oil, or petroleum products where direct observation of the interior walls, floor, roof, or ceiling of a structure on a site was obstructed by objects or coverings on or over these surfaces.

Unless otherwise specified in the report, USACE did not perform testing or analyses to determine the presence or concentration of asbestos, radon, formaldehyde, lead-based paint, lead in drinking water, electromagnetic fields (EMFs) or polychlorinated biphenyls (PCBs) at the site or in the environment at the site.

The purpose of this report was to assess the physical characteristics of the subject site with respect to the presence in the environment of hazardous waste or material, oil, or petroleum products. Except as otherwise described in this report, no specific attempt was made to check on the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise.

XII References

- *E1527-13: Standard Practice for Environmental Site Assessments – Phase I Environmental Site Assessment Process, ASTM*

- *E1528-06: Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (interview questionnaire), ASTM*

- *E2247-08 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property*

XIII Qualifications

USACE EC-HQ has the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject properties and declare that, to the best of our professional knowledge and belief meet the definitions of Environmental Professionals as defined under 40 CFR 312.