



Environmental Consultants Specializing in Streams, Wetlands and Protected Species

**Wetland Delineation Study
Christian County Kentucky
Mega Sites**

June 2004

Wetland Delineation Survey

Introduction

Wetland delineation surveys were conducted by Up A Creek Enterprises (UACE) on June 7 - 11, 2004 for the purpose of determining jurisdictional wetland boundaries on two tracts in Christian County, Kentucky. The survey site identified as the Northern Tract was located approximately 4 miles south of Hopkinsville, KY and east of highway 41 A. The survey site identified as the Interstate Tract was situated north of interstate 24 and east of highway 41 A, near the highway 41 A / Interstate 24 interchange.

Several potential wetland areas were identified by UACE during a preliminary wetland determination survey conducted in May 2004, and each site was examined in greater detail during the wetland delineation survey. Two wetland systems consisting of four individual wetlands were located near the northern boundary of the Northern Tract (see figure 1-3). One area of potential concern was located near the southwestern corner of the Interstate Tract (see figure 4). The area of potential concern was identified as wetland INT-1 but was determined not to be a jurisdictional wetland based upon criteria detailed in Section F. *Atypical Situation* of the 1987 United States Army Corps of Engineers (USACOE) Wetlands Delineation Manual.

Wetland Survey

Wetland delineations were based upon the protocol detailed in the 1987 USACOE Wetlands Delineation Manual. Jurisdictional wetland boundaries were determined based upon three criteria: 1.) The presence of wetland hydrology; 2.) Hydric soil conditions resulting from periodical saturation or inundation and 3.) a dominance of aquatic or wetland vegetation.

In addition to field surveys, soil survey maps composed by the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA) and National Wetland Inventory (NWI) maps composed by the United States Fish and Wildlife Service (USFWS) were reviewed to assist with the wetland delineations.

Wetland boundaries were marked with flagging material, and each wetland was assigned a unique identification number. The wetland identification numbers were used with corresponding data sheets and photographs to accurately characterize each wetland.

WETLAND: N-1 (*N-1 and N-2 were found to connect, therefore they are both grouped together and classified as wetland N-1*).

Wetland N-1 is a small drainage type wetland approximately 0.4 acres in size. It is located within a mesic forested area associated with an unnamed tributary of the *Little River* System. A significant portion of the wetland was likely created by altered hydrology associated with railroad construction and the presence of the railroad embankment.

Vegetation within wetland N-1 was primarily comprised of facultative species such as common Pawpaw (*Asimina triloba*) and Poison ivy (*Toxicodendron radicans*) and facultative wet species such as Boxelder Maple (*Acer negundo*), Sycamore (*Platanus occidentalis*) and Smartweed (*Polygonum virginianum*). Some obligate wetland species such as Blunt Broom Sedge (*Polygonum virginianum*) were also observed within wetland N-1.

Wetland soils were marginal throughout most of wetland N-1, however hydric conditions were present. Soils were classified as 10yr 4/2 with some mottling of 10yr 4/6. Oxidized rhizospheres were also noted within the wetland soils.

Drainage patterns, accumulated leaf litter and woody debris were observed within wetland N-1, indicated wetland hydrology. It appears that wetland N-1 is prone periodic indication and flooding.

WETLAND: N-3

Wetland N-3 was the largest wetland observed during the field survey effort. It was approximately 1.8 acres in size. Wetland N-3 included some emergent areas connected with a forested wetland. The wetland was associated with an unnamed tributary of the *Little River* System. Hydrology in the vicinity of wetland N-3 has been significantly altered by road and railroad construction along the western wetland margin. The altered hydrology has likely increased hydric conditions within wetland N-3.

Vegetation within wetland N-3 was primarily comprised of facultative species such as common Pawpaw (*Asimina triloba*) and Poison ivy (*Toxicodendron radicans*) and facultative wet species such as Boxelder Maple (*Acer negundo*), Sycamore (*Platanus occidentalis*) and Smartweed (*Polygonum virginianum*). Some obligate wetland species such as Rice Cut Grass (*Leersia oryzoides*) and Blunt Broom Sedge (*Polygonum virginianum*) were also observed within wetland N-3.

Soils varied throughout wetland N-3, ranging from marginally hydric (associated with disturbed areas from road and railroad construction) in some areas to highly reduced gleyed conditions in other areas. Heavily compacted soils beginning at a depth of 6-8 inches were prevalent along the western wetland margin. Hydric soils most commonly observed within N-3 were classified as 10yr 4/2 with some mottling of 10yr 4/6. Oxidized rhizospheres were also noted within the wetland soils.

Wetland hydrology within N-3 was indicated by standing water in some areas, saturated soils, drainage patterns, accumulated leaf litter / woody debris, and buttressing of several large trees.

WETLAND: N-4

Wetland N-4 is a small drainage type wetland (approximately 0.2 acres in size) located within a mesic forested area. It is associated with an unnamed tributary of the *Little River* System.

Vegetation within wetland N-4 was primarily comprised of facultative species such as common Pawpaw (*Asimina triloba*) and Poison ivy (*Toxicodendron radicans*) and facultative wet species such as Boxelder Maple (*Acer negundo*), Sycamore (*Platanus occidentalis*).

Soils in N-4 varied from marginally hydric in some locations to highly reduced one chroma soils in other locations. However, the most commonly observed hydric soils were classified as 2.5y 3/2 with some mottling of 2.5y 5/6. Heavily compacted soils beginning at a depth of 5 inches were commonly observed within wetland N-4.

Wetland hydrology within N-4 was indicated by standing water in some areas, saturated soils, drainage patterns and accumulated leaf litter / woody debris.

WETLAND: N-5

Wetland N-5 is a small drainage type wetland (approximately 0.1 acres in size) located within a mesic forested area. It is associated with an unnamed tributary of the *Little River* System.

Vegetation within wetland N-5 was primarily comprised of facultative species such as common Pawpaw (*Asimina triloba*) and Poison ivy (*Toxicodendron radicans*) and facultative wet species such as Green Ash (*Fraxinus pennsylvanica*), Boxelder Maple (*Acer negundo*), Sycamore (*Platanus occidentalis*).

Soils in N-5 varied from marginally hydric in some locations to highly reduced one chroma soils in other locations. However, the most commonly observed hydric soils were classified as 10yr 4/2 with some mottling of 10yr 5/4. Heavily compacted soils beginning at a depth of 5 inches were commonly observed within wetland N-5. Highly reduced soils (2.5y 3/1) were also observed throughout wetland N-5 at depths below 6 inches.

Wetland hydrology within N-5 was indicated by highly saturated soils, drainage patterns and accumulated leaf litter / woody debris.

Selected References

United States Fish and Wildlife Service. 1988. National list of plant species that occur in wetlands. Fort Collins, Colorado.

United States Army Corps of Engineers. 1987. Corps of engineers wetland delineation manual. Vicksburg, Mississippi.

Mitsch, W. J. and Gosselink, J. G. 1993. Wetlands 2nd edition. Van Nostrand Reinhold. New York, New York.



WETLAND: N-1 (*N-1 and N-2 connect therefore are classified as N-1*) approx. 0.4 acres a small drainage within a mesic forested area associated with an unnamed tributary of the *Little River* System. A significant portion of the wetland was likely created by altered hydrology associated with railroad construction and the presence of the railroad embankment.

VEGETATION:

<i>Asimina triloba</i>	fac	<i>Cephalanthus occidentalis</i>	obl
<i>Acer negundo</i>	facw	<i>Carex tribuloides</i>	facw+, obl
<i>Platanus occidentalis</i>	facw	<i>Polygonum virginianum</i>	fac, facw
<i>Toxicodendron radicans</i>	fac		

SOILS:

Depth (inches)	H/V/C	Description
0 - 1	-----	Organic Layer - fibrist
1 - 5	10yr 4/2	some mottling (10yr 4/6) and oxidized rhizospheres
5 - 10+	10yr 4/6	

Comment: hydric soils persisted at depths greater than 5" throughout the wetland, however, soils at greater depths tended to be better drained with higher chroma.

HYDROLOGY:

Drainage Patterns and accumulated leaf litter / woody debris were present

**WETLAND: N-3**

approx. 1.8 acres

Forested ranging to emergent. Associated with an unnamed tributary of the *Little River System*. Hydrology has been altered by road and railroad construction along the western margin.

VEGETATION:

<i>Asimina triloba</i>	fac	<i>Leersia oryzoides</i>	obl
<i>Acer negundo</i>	facw	<i>Carex tribuloides</i>	facw+, obl
<i>Platanus occidentalis</i>	facw	<i>Polygonum virginianum</i>	fac, facw
<i>Toxicodendron radicans</i>	fac		

SOILS:

Depth (inches)	H/V/C	Description
0 - 1	-----	Organic Layer - fibrist
1 - 6	2.5y 4/2	some mottling (10yr 4/6) and oxidized rhizospheres
5 - 10+	10yr 4/6	Much of the lower strata is heavily compacted

Comment: hydric soils varied from marginal (likely resulting from disturbances) to highly reduced gleyed conditions in some locations

HYDROLOGY:

Some areas were inundated

Some areas had highly saturated soils

Drainage Patterns and accumulated leaf litter / woody debris were present

Buttressing of several large trees